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fact book of U.S. Agriculture

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U.S. DEPARTMENT OF AGRICULTURE

TO THE READER

The U.S. Department of Agriculture has many specialized and statistical publications, but this is USDA's only narrative summary of U.S. agriculture as a whole. *Fact Book of U.S. Agriculture* contains selected basic information on agricultural resources, production, finance, marketing, and rural United States. It is intended as a general reference for the nonspecialist.

More detailed tabulations and charts will be found in *Agricultural Statistics* and in the *Handbook of Agricultural Charts*, both revised yearly (for sale at $2.75 and $0.65, respectively, by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402). Other sources are listed on page 79; the index begins on page 81.

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RESOURCES

1. LAND

The United States has nearly 2.3 billion acres of land. About 80 percent of it, including the forest land, can be used for agriculture. About 630 million acres are suitable for regular cultivation, and about 60 percent of this land is currently being used for cropland. The remaining 40 percent can be used when it is needed.

In theory, the basic resources of agricultural land—soil, water, and vegetation—are endlessly renewable. With the conservation methods and production techniques now at hand, land can be used almost indefinitely.

Research and technology have had the effect of increasing our farmland supply. With new seeds, fertilizers, and farming methods, the yields from our best acres can now be doubled or tripled.

Thus, we have more than enough land to meet current and anticipated demand for U.S. farm products.

More than 60 percent of U.S. land is privately owned. All U.S. citizens share in the Federal ownership of one-third of the land, and State and local governments hold another 5 percent.

Of the federally owned land, more than half is forest and grazing land. The rest is used for mineral development, parks, national monuments, wilderness and primitive areas, and other public purposes. The Department of Agriculture manages 187 million acres of national forests and grasslands.

Some farmland is shifting each year to urban and industrial areas that require more land. Cities are absorbing about 1 million acres of new land each year, but only about 200,000 acres of this is farmland of the better grades (Classes I, II, or III). Considering the cropland available, urbanization does not appear to be a major threat to U.S. agriculture in the near future. However, in some areas with rough terrain or specialized production, urbanization may have a serious impact on local agriculture.

The National Inventory of Soil and Water Conservation Needs taken in 1967 places land in one of eight classes, ranging for Class I (suited for crops or most other agricultural uses) to Class VIII (suited only for recreation, wildlife, or water supply; limited agricultural use).

Land capability	*Available*	*Used for crops (1967)*
Land suitable for cultivation:		
Classes I, II, III (no limitations for farming).	630 million acres.	360 million acres.
Class IV (limited cultivation).	180 million acres.	49 million acres.
Classes V to VIII (best suited for grazing and forests, recreation, wildlife, and water supply).	628 million acres.	25 million acres.

The Conservation Needs Inventory suggests that the 49 million acres of Class IV land being used for crops is a continuing conservation problem as is the 25 million acres of Class V to VIII land being cropped.

The Inventory, through its basic soil and land-use data, offers a nationwide county-by-county guide to land use which can be consulted by industrial representatives, regional planners, and other citizens. Soil surveys, new combinations of farming practices and technology, and land-capability classification point the way to more efficient systems of private management of land and water for the public good.

2. WATER

The amount of precipitation varies from nearly none in the Death Valley Desert to more than 100 inches in some areas, but for the 48 States of mainland U.S.A. it averages 30 inches per year—a total of 4.8 billion acre-feet. Over the years, this amount does not vary significantly.

Two-thirds of all this water never reaches streams but sustains vast acreages of crops, pastures, rangeland, and forests. The other third finds its way into streams, where it can be used for navigation, recreation, power generation, or diverted from streams (and pumped up from underground) for irrigation, domestic and industrial uses, and other purposes.

As long as the quality of the water is maintained, water that is withdrawn and then returned to streams may be used again. Only water that is "used up" and not returned to streams reduces the total water supply. Of the water so "used up," 85 out of every 100 gallons is used for agriculture—that is, it goes into livestock and plants, including forests and weeds.

By the year 2000, farmers will withdraw about one-third more water than they did in 1965. The use of water by cities and industries will increase at an even faster rate. But by 2000, 85 percent of the water should be available for reuse, compared to 72 percent in 1965, There will be more "used" water because consumptive use (water "used up") is smaller for cities and industries than it is for agriculture. Increased efficiency and greater reliance on ground water will decrease net use of water per acre of irrigated land.

Management of the water resource is becoming increasingly important as use approaches available supply. Shortages can occur in any region of the United States in any year because of inadequate storage and/or long-term drought.

In some western States, current use is already pressing heavily on available supplies and water is being transferred from irrigation to municipal and industrial use. In the east, irrigation is much less important, but cities and industries are using increasing amounts and thus intensifying supply and treatment problems. Water pollution is today a major conservation problem in most regions. In the future, the total supply of water will not increase, but more usable water may be made available by desalting ocean water, storing more in surface reservoirs, and recharging underground aquifers.

3. FARMING REGIONS

The 10 major farming regions in the United States differ in soils, slope of land, climate, distance to market, and in storage and marketing facilities. Together, they give a glimpse of the agricultural face of the Nation. Nearly everyone who has traveled widely in this country has a "feeling" for them.

The *Northeastern States*—from Maine to Maryland— and the *Lake States*—those bordering on the Great Lakes, from New York to Minnesota—are the Nation's principal milk producing areas. Climate and soil in these States are suited to raising grains and forage for cattle and for providing pastureland for grazing. Broiler farming has become important in Maine, and from New Jersey to Maryland.

The *Appalachian* region—West Virginia to North Carolina, Kentucky, and Tennessee—is the major tobacco producing region of the Nation. Peanuts, cattle, and dairy production are important throughout the region.

Going farther south along the Atlantic coast is the *Southeast* region. Cotton and broilers are important farm products. Some vegetables, such as sweetpotatoes, are grown in this area, along with peanuts. And, of course, there are the big citrus groves in Florida.

In the *Delta States*—Mississippi, Louisiana, and Arkansas—the principal cash crop is cotton. Soybeans, rice, and sugarcane are also grown. With improved pastures, livestock production has gained in importance.

The *Corn Belt*, extending from Ohio to the Nebraska border, is a region with rich soil, good climate, and sufficient rainfall for excellent farming. Corn, beef cattle, and hogs are the major outputs of farms in the region. Soybeans and wheat are also important.

Agriculture in the *Northern* and *Southern Plains*, which extend north and south from Canada to Mexico and from the Corn Belt into the Mountain States, is restricted by low rainfall and, in the northern part, by cold winters and short growing seasons. Nearly three-fifths of the Nation's winter and spring wheat is produced in the region. Other small grains, grain sorghum, hay, and forage crops, and pastures form the basis for cattle and dairy production. Cotton is produced in the southern part.

The *Mountain States*—from Idaho and Montana to New Mexico and Arizona—provide a still different terrain. Vast areas of this region are suited to raising cattle and sheep. Wheat is important in the northern parts. Irrigation in the valleys provides water for such crops as sugarbeets, potatoes, fruits, and vegetables.

The *Pacific* region includes the three Pacific coast States. Farmers in the northern area specialize in raising wheat and fruit; vegetables and fruit are important in the southern part. Cattle are raised throughout the entire region.

4. FOREST LAND

One-third of the United States is forested. Seventy-three percent of the Nation's commercial forests are east of the Rockies, with 34 percent in the north and 39 percent in the south. Eighty-eight percent of the private forests are in the east.

About 19 percent of the 510 million acres of commercial forest land in the United States is in the National Forest System. Other Federal, State, and local holdings make up 9 percent. Landholdings of forest industries, farm holdings, and miscellaneous private ownership account for 72 percent. Almost 60 percent of the Nation's commercial forest land is in farm holdings and miscellaneous private ownerships. Forest industry holdings total 13 percent.

About 60 percent of the Nation's annual sawtimber softwood harvest comes from private ownership, with 33 percent obtained from private industry lands and 27 percent from farm and miscellaneous ownership. Another 9.4 percent of sawtimber removals are made from other public ownership. The remaining 31 percent is the product of the national forests.

In 1968, western forests of all ownerships provided 66 percent of U.S. softwood sawtimber; southern forests supplied 29 percent. Somewhat more than half of the Nation's total inventory of softwood sawtimber is located on national forests, chiefly in the west.

Sawtimber harvest from national forests has grown steadily in the past 6 years. In 1959 it came to 8.3 billion board feet; in 1966 it reached 12.1 billion board feet. In fiscal year 1968 the harvest was also 12.1 billion board feet.

The 187-million-acre National Forest System, including the National Grasslands, are under the management and direction of the Forest Service, USDA. It also has the responsibility of carrying on forestry research and offering technical assistance and cooperation in the protection and development of private forests. In 1968, a total of 106,328 small woodland owners received some technical help from the Forest Service through cooperating State foresters. Organized fire protection, in cooperation with State and private forest owners, was extended to 94 percent of the 515 million acres of the non-Federal forest and related lands needing protection in the United States.

5. "INPUTS" FOR AGRICULTURE

The basic "inputs" for agricultural production—land, labor, and capital—are usually listed in five major subgroups: Farm labor; farm real estate; mechanical power and machinery; fertilizer and liming materials; and feed, seed, and livestock. A sixth catch-all subgroup is labeled miscellaneous.

Farm labor includes the total man-hours of hired, operator, and family labor used in agricultural production.

Farm real estate is measured by interest on land and service buildings; licenses and insurance on automobiles and motortrucks; depreciation, repairs, parts, and tires for those items; fuel, oil, and electricity used for production; and hardware and small handtools.

Fertilizer and liming materials include large amounts of principal commercially produced plant nutrients [Nitrogen (N), Phosphorous (P), and Potassium (K)] and tons of liming materials.

Feed, seed, and livestock includes the value added by feed, seed, and livestock purchases from the nonfarm sector; for example, feed and seed processing, transportation, chicks produced by commercial hatcheries, and marketing service charges.

Miscellaneous includes real estate and personal property taxes; interest on livestock and crop inventories; interest on operating capital; livestock marketing and milk-hauling charges; expenditures for containers; fire, wind, and crop-hail insurance; greenhouse and nursery supplies; binding materials; pesticides; irrigation operation and maintenance; sorgo and sugarcane tolls; veterinary services; dairy supplies; telephone (production portion); and ginning charges.

Land is no longer the major production tool. The productivity of the land now depends upon the skill and knowledge with which capital is applied—the use of mechanical power and machinery, fertilizer, lime, better seed; the use of pest control chemicals; and the technology applied to conserve and enhance the land while in productive use. The total of all resources used in agriculture—land, labor, machinery, and supplies—has increased only 35 percent since 1910. Whereas cash or capital input is up 34 points since 1955, nonpurchased input is down 35 points. The following table gives more details:

Index numbers of total farm inputs and inputs in major subgroups, 1955–68

[1957–59=100]

Year	Total inputs			Farm labor	Farm real estate	Mechanical power and machinery	Fertilizer and liming materials	Feed, seed, and livestock purchases	Miscellaneous
	All	Non-purchased	Purchased						
1955	102	111	97	120	100	99	90	86	94
1956	101	108	98	113	99	99	91	91	98
1957	99	101	97	104	100	100	94	93	95
1958	99	99	100	99	100	99	97	101	100
1959	102	100	103	97	100	101	109	106	105
1960	101	95	105	92	101	104	111	109	106
1961	101	92	106	88	101	101	117	111	109
1962	101	90	108	84	103	100	125	117	113
1963	104	89	112	81	104	104	141	123	117
1964	104	85	115	77	106	102	155	126	120
1965	104	82	117	73	106	105	162	127	120
1966	107	82	122	69	107	110	182	136	123
1967	110	78	128	68	107	114	204	144	128
1968	111	76	131	66	106	117	215	141	131

6. FARMS AND LAND IN FARMS

There are about 3 million farms in the United States at the present time, about half the number we had 30 years ago. Of this 3 million, about one-third are commercial farms grossing $10,000 or more per year; one-third are commercial farms producing less than $10,000 in gross sales; and roughly one-third are "residential" farms. Big commercial farms have increased in number, from 320,000 in 1939 to slightly more than a million today. The percentage of farm sales from these larger farms has increased from 40 percent to more than 80 percent in the same period.

The smaller farms grossing less than $10,000 have dropped radically, from 4 million in 1939 to about 1 million today. Their percentage of farm sales has dropped from nearly 50 percent to about 15 percent.

The number of "residential" farms has remained about the same over the 30 years.

During the period, the average size of all size classes of farms has been increasing. The upper two-fifths of our farms have produced about 80 percent of our total output throughout the last 30 years.

The increasing size of our farms is due primarily to the increasing productivity of the individual farmer. Today's farmer with a 100-horsepower, eight-row tractor can cover a much larger acreage than his grandfather with horse-drawn equipment. The modern dairy farmer with milking machines and a milking parlor may handle 50 cows, while his grandfather milked eight by hand.

Given the ability to run a larger business, today's farmers buy or rent more land, get larger machinery, or add more cows so they can increase their net profits. In this situation, a county which once had space for a thousand 320-acre farms may now have only 500 farms with 640 acres each.

Number of farms and land in farms, United States, 1959–69

Year	Farms	Land in farms	Average size of farm
	Thousands	*Thousand acres*	*Acres*
1959	4, 105	1, 182, 563	288
1960	3, 962	1, 176, 946	297
1961	3, 821	1, 169, 899	306
1962	3, 685	1, 161, 383	315
1963	3, 561	1, 153, 072	324
1964	3, 442	1, 146, 806	333
1965	3, 340	1, 141, 536	342
1966	3, 239	1, 137, 161	351
1967	3, 146	1, 131, 982	360
1968	3, 054	1, 127, 567	369
1969 [1]	2, 976	1, 123, 372	377

[1] Preliminary.

In order to separate those farms which provide major sources of employment and income from those which provide part-time employment, the census of agriculture uses a definition of commercial farms. Commercial farms are those which have a total sales of farm products of $2,500 or more; and those with a total sales of $50 to $2,499, provided the farm operator is under 65 and works off the farm less than 100 days each year.

Within the limits of this definition, there were 2.2 million commercial farms in operation in 1964. That year more than 1.3 million farms—42.4 percent of the total number—had sales under $2,500.

For the purposes of the census of agriculture, taken every 5 years by the Bureau of the Census, Department of Commerce, the definition of a farm is a place of less than 10 acres if estimated sales of agricultural products amounted to $250, or a place of 10 or more acres if sales of agricultural products amounted to at least $50 a year. Places having less than the $50 or $250 minimum sales are also counted if they normally produce agricultural products in sufficient quantity to meet the requirements of the definition—even if, in the year of the census, they did not.

The number of farms within this definition has declined one-fourth since 1959. The amount of land in farms has decreased 5 percent. The average size farm in 1969 is 377 acres—one-third larger than 10 years ago. The decline in the number of farms is due primarily to the discontinuance of small farming enterprises and the merging of larger units with existing farms.

In 1967, 3,146,000 farms were in operation—8 percent under 1964.[1] In 1968, the total number of farms was approximately 3,045,000. The preliminary estimate for 1969 is 2,976,000.

7. FARMS BY SALES CLASSES

In 1967, the average net farm income of farms in the lowest sales class (under $2,500) was $1,018. On the average, these farms received over five times as much off-farm income—$5,681.

Some of the 1.3 million farms with under $2,500 yearly sales had high off-farm incomes; others had low off-farm incomes, or none. All were below $2,500 in annual sales; some were far below. Many were meant to be part-time farms. Their operators depend upon nonfarm work for substantial income, or are retired or semiretired and occupy farms primarily as residences. Others were subsistence farms whose operators and families were underemployed and lived below the poverty level of income.

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[1] Data on number of farms, average size, and total farmland acres are USDA estimates, based on census of agriculture data adjusted for incompleteness. The 1964 Census of Agriculture gives 3,157,857 as the total number of farms.

Of the realized net income from farming in the United States in 1967—$14.2 billion—these 1.3 million farms, 42.8 percent of the total number, received 9.6 percent.

Farms in the highest class by value of farm sales—$40,000 or more yearly—numbered 183,000 (5.8 percent). Their realized net per farm averaged $23,754. In the aggregate they received 30.5 percent of the total realized net farm income. The 318,000 farms selling $20,000 to $39,999 worth of agricultural products in 1967 received 21.9 percent of farm net income, or $9,792 per farm.

The third class by sales included the 492,000 farms with sales of $10,000 to $19,999. Realized net farm income for this class amounted to 21.7 percent of the total, an average per farm of $6,266.

These three top sales classes—an estimated 993,000 farms—accounted for $39 billion in cash receipts (including Government payments) of the $45.9 billion total for all farms in 1967. The three top groups with annual sales over $10,000, comprising 31.5 percent of all farms, accounted for 85.1 percent of the cash receipts and 74.1 percent of total realized net farm income.

The number of farms with more than $10,000 yearly sales gained 19 percent from 1960 to 1967. Those in the other three classes declined 31 percent.

The $5,000 to $9,999 sales group had 446,000 farms in 1967. This group had cash receipts of $3.7 billion, which was 8.1 percent of the national figure. Net income was about $1.6 billion, or 11.2 percent. Per farm, they averaged $3,585.

Cash receipts for the $2,500 to $4,999 class were $1.5 billion (3.4 percent). Realized net incomes for these 360,000 operators totaled $727 million, or 5.1 percent. The group averaged $2,019 per farm.

As noted, farm families in the lowest sales group in 1967 received, on the average, over five times as much off-farm income as net farm income. Many farm families in each of the other sales classes also received substantial nonfarm income. Even families in the $40,000-and-up sales group (realized net, $23,754) averaged $5,027 from off-farm incomes. Farms in the $20,000 to $39,999 sales class realized $9,792 net income from the farm and $2,887 off-farm income. Those in the $10,000 to $19,999 class averaged $2,709 per farm—less than the $3,809 for the $5,000 to $9,999 class, or the $4,119 for the $2,500 to 4,999 class, but still an appreciable addition to family income.

More than four-fifths of all farm products going to market are produced on farms with gross sales of $10,000 or more. In 1967, 10,000 average farms in the top sales class had marketings valued in excess of those of the 1 million farms with the lowest marketings per farm. Highly prosperous farm enterprises get returns far in excess of the average realized net income per farm. Conversely, the bottom 1 million fall far short of attaining average farm income.

The upper income group of around 1 million farms make up the commercial agricultural economy of the United States. The operators of these farms do the buying and selling that turn the wheels of an enormous agricultural business and food and fiber marketing complex.

8. FARMERS

A farmer has been defined variously as one who makes his living entirely from farming; also as one who makes some of his living from farming; and as one who lives on a farm, or who owns a farm. The Census Bureau does not define the word "farmer" but uses instead the term "farm operator"—"a person who operates a farm, either by doing or supervising the work."

According to this definition, a farm operator could be one who supervises the work on a small farm of no commercial importance, or one who supervises a highly productive commercial farm while engaged in another profession or directing other business enterprises.

The owner of a 320-acre grain-livestock farm with $100,000 invested in equipment, buildings, and livestock, who lives in a modern air-conditioned home, is called a farmer. So is the man with a capital investment of $1 million or more. So is the sharecropper, farming a few acres, whose home is a shack.

The orange grove owner in Florida, the dairyman in Minnesota, the apple grower in New York, the egg producer in California, the wheat farmer in the Dakotas, the cattleman in Texas—all of these are farmers, though their work and ways of life differ greatly.

9. HIRED FARMWORKERS

About 2.9 million persons did some work on farms for wages in 1968. This represents a decrease of about 5 percent from the estimated 3.1 million hired farmworkers in 1967. Casual workers (those who did less than 25 days of farm wagework) numbered 1.3 million, down 40,000 from 1967. Those who did 25 or more days work numbered 1.6 million, about 120,000 less than in 1967. Only about a fourth of these were engaged chiefly in farm wagework, and about three-fourths of them did not live on farms. About half lived in the South. The average annual employment of hired farmworkers in 1967 was 1,253,000; in 1968, 1,213,400.

As a group, hired farmworkers earned about $10.55 a day in cash wages from their farm wagework in 1968. For an average of 79 days of such work, they earned $834. The wage figures do not include the value of anything furnished without charge by the employer.

The general range of farm wage rates may be seen in the following table:

Item	Annual average 1968	July 1, 1967	July 1, 1968	July 1, 1969
Farm wage rates:				
Composite rate per hour [1]	$1. 21	$1. 10	$1. 18	$1. 29
Per month with house	283. 00	275. 00	[2] 295. 00	319. 00
Per month with board and room	216. 00	202. 00	[2] 217. 00	232. 00
Per week with board and room	52. 50	50. 00	55. 75	58. 25
Per week without board or room	66. 50	65. 00	[2] 70. 75	75. 75
Per day with house	8. 20	7. 50	[2] 8. 10	8. 80
Per day with board and room	9. 30	9. 10	9. 70	10. 50
Per day without board or room	9. 90	9. 00	9. 80	10. 80
Per hour with house	1. 28	1. 23	1. 33	1. 45
Per hour without board or room	1. 44	1. 36	1. 45	1. 58
Indexes: [3]				
(1910–14=100)	931. 00	859. 00	922. 00	1, 010. 00
(1957–59=100)	160. 00	148. 00	159. 00	174. 00

[1] Weighted average of all rates on a per-hour basis. Composite rate does not include piece rate workers.

[2] Revised March 1969.

[3] Indexes are adjusted for seasonal variation.

During the survey week of June 22–28, 1969, the Nation's farmwork was performed by 5,256,000 persons. Persons working for pay totaled 581,000—down 8 percent from 1968; while the 3,675,000 farm operators and other family workers were 4 percent below the number recorded for the same week in 1968. There is, of course, a strong seasonal element in farm employment, with high employment in summer and low in winter. The following table shows farm employment and indexes, July 1969, and comparisons with previous years and with annual averages for recent years:

Item	Annual average, 1967	Annual average, 1968	June 18–24, 1967	June 23–29, 1968	June 22–28, 1969
Farm employment (thousands): [1]					
Total	4, 903	4, 745. 8	5, 718	5, 534. 1	5, 256. 0
Family labor	3, 650	3, 532. 4	3, 946	3, 824. 7	3, 675. 0
Hired labor	1, 253	1, 213. 4	1, 772	1, 709. 4	1, 581. 0
Indexes: [2]					
(1910–14=100):					
Total	36	35	36	35	33
Family labor	36	35	36	35	33
Hired labor	37	36	37	36	33
(1957–59=100):					
Total	66	63	65	63	60
Family labor	66	64	66	64	61
Hired labor	64	62	64	62	57

[1] Employment during the last full calendar week ending at least 1 day before the end of the month.

[2] Monthly indexes are adjusted for seasonal variation.

The annual average employment in farming during 1968 was 4.7 million (including farm operators)—a decrease of 157,000 workers, or 3 percent from the 1967 annual average. The annual average decrease from 1959 to 1968 was 288,000 workers, or 3.9 percent per year.

The hourly equivalent of all types of wage rates averaged $1.21 per hour in 1968—9 cents higher than in 1967. (The comparable figure for industrial workers in 1968 was $3.01.)

10. THE FAMILY FARM

A family farm may be defined as one in which the operating family does most of the work. Such a farm may have a full owner, a part owner, a renter, or a contract farmer. In terms of the labor required, a family farm is one that requires no more than the full-time work of three people. A larger-than-family farm is a farm business for which most of the labor is hired.

Family-size farms accounted for 67 percent of all farm marketings in 1944, 71 percent in 1959, and 73 percent in 1964. The number of family farms which sell $10,000 or more each year of farm products is increasing; the number of farms in all other sales classes is declining.

Because of the large amount of capital needed to operate highly productive family farms, some are becoming formal partnerships and family corporations in order to pool financial resources and to obtain credit.

Many larger-than-family size farms that hire more workers have been developed, notably in California, Florida, Arizona, and southern Texas. The largest numbers of hired farmworkers find employment in these States. These large commercial farms are growing in importance in terms of farm marketings, but the family farm is still the predominant type of operating unit in U.S. agriculture. A family farm may be much larger today than in the past, but the amount of labor required to farm it is smaller. Mechanized farming has limited the need for many hands.

At present, corporations control only a slim share of U.S. agriculture, and most of the existing corporations are really family farms that have incorporated for business reasons.

A recent USDA study of farm corporations in 47 States[2] showed that corporations operated 7 percent of the agricultural land in those States and their share of gross farm sales was between 8 and 9 percent.

Two-thirds of the farm corporations were family owned. About two-fifths of them had nonfarm interests, but most of these activities were tied to agriculture—feed, farm machinery, etc.

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[2] The surveys of California, Hawaii, and Alaska had not been completed at publication time.

Farm corporations were found more frequently in livestock enterprises and specialty crops than in field crops. Those in crops tended to grow the same crops as other farms in their areas, but on a larger acreage.

Most of the farming corporations had gross farm sales of less than $100,000, and about 40 percent took in less than $40,000 per year.

Economists suggest that the advantages of scale in U.S. farming today are mostly achieved when the farm is large enough to fully utilize one set of modern equipment. A wide array of modern technology is available at competitive costs to a wide range of sizes of farms. Specialized equipment can often be hired on a custom basis.

Nevertheless, the absolute number of small commercial farms is declining rapidly. While their costs of production per unit may not be higher than that of larger farms, their returns to the operator are necessarily smaller.

11. MECHANIZATION AND SPECIALIZATION

Tractors and other farm machines have increased the area of land a man can handle. Years ago, a man with a good team of horses would plow about 2 acres a day. Today mechanical power makes it possible for him to plow 10 to 20 times that much. Power has been applied to other farmwork with similar increases in labor efficiency. The substitution of machines for hired labor has permitted some farms that were once larger-than-family size to drop into the family-size category.

Along with mechanization, specialized farming has increased. It takes a high degree of skill and knowledge to compete successfully in the production of any farm product. Some farmers specialize because they find they can be experts in only a limited number of farming operations. For others, specializing in one crop gives the best rate of return for their labor and investments.

The farm operator who does well today uses knowledge of genetics, land and water conservation, chemistry, physics, and business management. He performs many jobs with complex tools and machines. He combines science and machine power with the ancient art of tilling the soil.

12. AGRICULTURAL RESEARCH

Agricultural research and development is conducted at hundreds of locations. Tens of thousands of scientists in dozens of disciplines are involved. Funds are supplied by Federal, State, and private sources.

The responsibility for much of the public segment of this research and development program lies with the research agencies of the U.S. Department of Agriculture and with the land-grant college system of State agricultural experiment stations (SAES). The interrelated and cooperative programs of USDA and SAES cover research at over 500 locations in all 50 States and in Puerto Rico, with expenditures totaling in excess of $400 million in 1968.

Research has given farmers more control over nature, increased production, and reduced crop risks. Research has resulted in the development of high-yield seeds, crop varieties that resist drought and diseases, better fertilizers, more effective pest control methods, and effective control of animal diseases.

There are still many possible areas for additional savings, for improved product quality, and for new and improved service. Insect, disease, and weed control is a costly business. A 1965 report estimates that such control costs as much as $1.4 billion a year. New research techniques and findings point to the development of new, less persistent bio-degradable chemicals and the use of natural biological control methods to replace some of the long-lasting chemical control agents which are causing concern to many of the Nation's ecologists, conservationists, and others. Yet, with all of the advances in pest control, crop and livestock scourges still reduce production by at least 20 percent.

The extensive use of improved chemical fertilizers has increased farm production, but a large part of the fertilizers used is not recovered in the form of crops. Present production practices use only a small fraction of the sun's energy; the use of water is far from fully efficient. Still better seeds and higher yielding disease-resistant varieties of plants and breeds of livestock can yet be produced. It now takes 10 pounds of feed to make a pound of beef (on the hoof). Improved weaning weights, better feed efficiency, reduced time in feedlots, greater utilization of nonprotein nitrogen, reduced losses in harvesting, storing, and feeding of forages, and better utilization of roughages and crop byproducts offer the possibility of reductions in beef production costs by as much as $2.16 billion per year.

The number of dollars spent or saved gives only one indication of the value of research. No dollar value can be assigned to the worldwide usefulness and worth of scientific research related to agriculture. The added years of human life made possible by proper nutrition, for example, have no price. At the same time, if the growing world population is to have enough to eat, research must ultimately point the way.

13. PESTICIDES

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), enacted in 1947, regulates the marketing of economic poisons, generally known as pesticides. The law requires that all pesticide products must be registered with USDA's Agricultural Research Service before they can be marketed in interstate commerce. Before such registration is granted, the manufacture must provide scientific evidence that the product (1) will be effective against the pest or pests listed on the label and (2) will not injure humans, crops, livestock, and wildlife when used as directed.

More than 45,000 different pesticide products made from one or more of 900 chemical compounds are currently registered with the Department. The law provides basic safeguards for both the user of pesticides and the consumer of products protected by pesticides.

The Department has been increasingly concerned with contamination of the environment by DDT and other persistent or long-lasting pesticides. In November 1969, the Secretary of Agriculture announced that all DDT registrations, except where needed for the protection of public health or other essential uses, would be cancelled by December 31, 1970. Similar action on other persistent pesticides relative to environmental hazards is planned for 1970.

USDA pest control programs which involve the use of pesticides are monitored—often by outside agencies—for any adverse effects on wildlife, fish, and other nontarget organisms such as beneficial insects. The Department also conducts special monitoring projects to investigate potentially hazardous situations involving pesticides and to determine sources of pesticide residues in the environment. For instance, in 1969, USDA and other Federal and State agencies conducted a study to determine sources of pesticide residues in Lake Michigan.

In a study of broader scope, a national soil monitoring program is being conducted to keep track of the extent and nature of pesticide residues in soil, crops, and farm runoff water. Over 13,000 cropland and noncropland monitoring sites have been established throughout the continental United States. Samples will be taken from a portion of the sites each year to provide continuous updating of data on the accumulation and degradation of pesticides residues. This information will enable USDA scientists to spot potential residue buildups and to make recommendations for maximum safety and effectiveness of future pesticide applications.

PRODUCTION

14. RISE OF U.S. PRODUCTION

Farmers in the United States today produce nearly three times as much per man-hour of work as in 1950, and over six times as much as in 1930. Although large acreages were held out of crop production between 1950 and 1965, total U.S. farm output increased as fast as U.S. population.

This table shows agriculture's productivity since 1930:

Year	U.S. population (July 1)	Total farm output, 1957–59 =100	Persons supplied per farmworker	Output per man-hour, 1957–59 =100	Cropland harvested
	Millions				*Million acres*
1930	123. 1	61	10	28	360
1940	132. 1	70	11	36	331
1950	151. 7	86	16	61	336
1955	165. 3	96	20	80	333
1960	[1] 180. 7	106	26	115	317
1965	[1] 194. 6	114	37	156	292
1968	201. 2	120	43	182	297

[1] Includes 50 States.

For 37 years, agricultural productivity in the United States has been rising. An annual increase in farm production has come to be taken for granted, but in the early decades of this century farm production was almost on a treadmill. Agricultural productivity in the United States remained virtually unchanged from 1910 to 1930; it rose an average of 1.3 percent annually in the 1930's; 1.7 percent in the 1940's; since 1950 it has had an average annual increase of 1.9 percent.

In 1910, only seven persons were supplied farm products by one farmworker. In 1968, one farmworker supplied himself and 42 others. Agricultural production today uses one-third as much farm labor as in 1910.

The population of the United States is expected to be 235 million in 1980. The 1980 gross national product (value of all goods and services produced by the economy) is projected to nearly double the 1964 level, an increase of 4.2 percent per year. In 1980, domestic and export demand is expected to be about one-third more than in 1964. To meet this demand alone, U.S. agricultural productivity must increase at an average annual rate of slightly less than 2 percent.

All the evidence indicates that U.S. agriculture can maintain this rate of yearly increase in productivity—and attain even higher rates, if necessary—during the next 15 to 20 years.

15. WORLD FOOD PRODUCTION

World agricultural production in 1968 increased about 3 percent, an increase equivalent to the long-term trend. However, the gain was smaller in the less developed areas, where output per person was not significantly different from the level for most of the past decade. During the past decade the U.S.S.R., Europe, Japan, and Australia have made the largest per capita gains in agricultural output.

World production of grain expanded by about 15 percent in the past 3 years, following a very slow rate of growth during 1961–65. In 1967–68, rice led the advance in grain production, but in 1968–69 (as in 1966–67) wheat made the largest gain. The bulk of the world's wheat is grown in the developed countries, while rice is a primary grain in the less developed areas.

In 1967–68, good weather produced a large grain crop in the less developed countries, particularly in Asia. In addition, high farm prices—caused by rice shortages in previous years—encouraged a modest increase in acreage and sharp increases in the use of fertilizer and high-yielding grain varieties in Asia. Large 1967–68 crops resulted in temporary "self-sufficiency" in some Asian countries and in "exportable surpluses" in others. This, in turn, led to a decline in producer prices in some countries. Despite lower prices, there was an increase in the area planted to new varieties for the 1968–69 crop in most Asian countries.

The high level of world wheat production in the past 3 years primarily reflects larger harvests in the Soviet Union; average annual production in the U.S.S.R. was 75 million tons during 1966–68, compared with 48 million during 1963–65. Although growing conditions were not favorable in some regions in 1968, the U.S.S.R. harvested its second largest crop of wheat. Government domestic procurements were about 13 million tons in excess of domestic needs, and the U.S.S.R. again is in a position to increase net exports. For sales to convertible currency countries, the U.S.S.R. faces a highly competitive situation. The total wheat supply in the five major competing countries has reached record proportions and world demand is sluggish.

16. THE FOOD FOR PEACE PROGRAM

The Food for Peace program is a 15-year-old U.S. program that provides food shipments to needy countries. It is aimed broadly at helping less developed countries meet immediate food shortage problems while helping them to become self-sustaining in the future.

Food aid shipments are made under authority of Public Law 480, the Agricultural Trade Development and Assistance Act of 1954. The value of these shipments in the 1960's has averaged $1.4 billion annually—about one-fourth of total U.S. agriculture exports. Wheat, rice, and vegetable oils are the main aid commodities; other items include feed grains and cotton.

Food for Peace strongly emphasizes the principle of "self-help," that is, the doctrine that food aid from the United States must be accompanied by a major effort on the part of recipient countries to provide more of their own food from their own resources and through their own efforts.

Where countries show willingness to give high priority to agricultural improvement, the United States reinforces such self-help efforts with technical support from the Agency for International Development, the U.S. Department of Agriculture, land-grant universities, and private agricultural resources.

The program also provides for assistance to countries that decide to undertake family planning programs. Public Law 480, as amended, provides that foreign currencies generated through sales of U.S. food to needy countries may be used for financing, at the request of such countries, "programs emphasizing maternal welfare, child health and nutrition, and activities, where participation is voluntary, related to the problems of population growth * * *."

Recent program changes provide that food aid shipments will come from commodities "made available," not just from those that happen to be in surplus. Elimination of the "surplus" concept in food aid is predicated on the belief that the same programs that help to reduce commodity surpluses are flexible enough to gear farm production to quantities that can be used constructively.

One long-range goal of Food for Peace is expansion of commercial markets for American agricultural commodities. Food aid in many instances has hastened economic reconstruction and development. Economic growth, in turn, has meant expanded foreign outlets for U.S. food and fiber.

FARM COSTS AND RETURNS

17. FARM EXPENSES

Out of every dollar of realized gross farm income in 1968, about two-thirds went for production expenses. Some major items of expense may be seen in the following table:

	1957–59 (48 States)	1968 (48 States)
	Billion	*Billion*
Feed purchases	$4.4	$6.5
Property taxes	1.3	2.4
Interest paid	1.1	3.0
Fertilizer	1.1	1.9
Hired labor	2.8	3.0
Depreciation on motor vehicles and equipment (farm business only)	2.9	4.4

The index of prices farmers pay for production items—commodities, interest, taxes, and wage rates—increased 23 percent from 1957–59 to 1968. This compares with a rise of 21 percent in the consumer price index and a 19-percent increase in retail prices of food.

A part of the increase in farm costs in recent years is due to payments for services that the farmer used to do for himself. Farmers now often buy feed instead of growing it—and sometimes have it delivered right to their hog, poultry, or beef feeders. Suppliers construct buildings, install fences, test soils—and even finance these services as well as the supplies they sell.

Farmers can now buy a myriad of insecticides, herbicides, growth regulators, and other chemicals that cut costs or boost yields. These are reflected in the increased "miscellaneous" expenses.

Farmers are also making greater use of credit to increase the size of their farming operations—and their incomes. Interest on farm mortgage debt, accordingly, has increased. Recent studies have shown that farmers with larger proportions of debt also have larger incomes and net worths than the average.

Farm real estate value has risen 64 percent since 1958 (for roughly the same acres), and farmers' real estate taxes have increased 54 percent.

During the decade 1958 to 1968 total farm production expenses, excluding most expenses for farm operators' houses and rent to nonfarm landlords, increased 44 percent. Production expenses for major overhead—depreciation, taxes, and interest on farm mortgage debt—rose 71 percent; current operating expenses went up 35 percent. Hired labor got the lowest percent of increase, only 5 percent, while the cost for purchased livestock increased 33 percent.

The index of prices paid by farmers for production items, interest, taxes, and wage rates increased 23 percent. Farm mortgage interest (a measure of farm mortgage debt) increased 184 percent from 1958 to 1968.

In terms of 1957–59 dollars, purchased feed increased from 17.3 cents to 21.7 cents out of each dollar of expenses (more off-farm purchases); miscellaneous expenses rose from 10.5 to 13.1 cents (more chemicals); and interest on farm mortage debt from 1.7 to 3.5 cents (use of credit as tool for expanding). Expenses for hired labor dropped from 13.9 cents in 1955 to 8.5 cents in 1965 and depreciation declined from 17.4 to 15.0 cents.

The total costs of all U.S. farming, as measured by total farm production expenses, reached $35.9 billion in 1968. Expenses in 1968 for commodities and services of nonfarm origin were almost 17 percent above 1965, while outlays for farm-produced items—feed, seed, and livestock—were 13 percent higher.

18. FARM POWER AND MACHINERY

Farm output per man-hour has increased at a remarkable rate in recent years. Machines have played an important part in this progress. Power inputs equivalent to those directed by several men only a few years ago are now often directed by one man.

The inventory of farm equipment (tractors and other machinery) is valued at over $26 billion. This equipment requires extensive maintenance, along with fuel, to operate. Annual surveys (by the National Farm and Power Equipment Dealers Association) indicate that dealers' margins on machinery parts have declined slightly since 1960. Prices paid by farmers for motor supplies (petroleum fuel, tires, batteries, etc.) have increased only about 6 percent since 1960.

Farmers spent an estimated $4.8 billion for machinery and motor vehicles in 1967, a record. Tractors accounted for expenditures of nearly $1.1 billion. Next in importance was the nearly $0.7 billion spent for automobiles. Over $0.6 billion was spent for motortrucks.

From 1960 to 1967, wholesale prices for farm machines and equipment increased 16 percent—but farmers' investments in machinery and vehicles rose 78 percent as machinery replaced manpower (gross farm income rose 29 percent during the period). Some of the increase in machinery prices has been due to improvements which make the machines more efficient.

19. FARM REAL ESTATE

Farm real estate market values rose 6 percent during the year ended November 1, 1968, an increase consistent with those in recent years. The national index of average value per acre was 176 (1957–59=100).

Greatest market strength was again in the southeast and delta regions which showed 10 percent advances. Rapid changes in farming practices and expansion of industry into rural areas have contributed to active markets in these areas. Over the last decade, land values have more than doubled in several of the southern States.

Substantial increases in farmland values have occurred in all regions during the last 10 years. Annual rates of increase (compounded annually) averaged 5.5 percent, ranging from 4.1 percent per year in the Lake States to 7.9 percent in the delta. In most regions, the largest advances have been in the last 5 years.

Value of farm real estate: Compound annual rates of increase by farm production regions for selected periods, 1958–68 [1]

Region	Compound annual rate of increase		
	10-year period, 1958–68	5-year periods	
		1958–62	1963–68
	Percent	*Percent*	*Percent*
Northeast	5. 5	4. 4	6. 6
Lake States	4. 1	2. 7	5. 6
Corn Belt	4. 8	2. 2	7. 6
Northern Plains	5. 3	3. 8	6. 6
Appalachian	5. 7	5. 0	6. 4
Southeast	6. 8	6. 2	7. 4
Delta States	7. 9	5. 9	9. 9
Southern Plains	6. 6	7. 0	6. 1
Mountain	4. 6	4. 6	4. 6
Pacific	5. 7	5. 5	5. 9
48 States	5. 5	4. 4	6. 6

[1] 1958 index of average value=100. 1963 and 1968 values are Mar. 1 indexes of average value.

Tight and expensive credit conditions during the last few years have not altered upward price trends significantly—even though four out of five farmland transfers involve credit financing. Greater reliance on seller-financing, no doubt, has buffered the farmland market against the effects of a tight money market. Sellers provided over half of the financing in 1968, usually in the form of an installment land purchase contract.

As of November 1, 1968, the total value of farm real estate reached $200.6 billion, up $11.1 billion from a year earlier. Land and building value on an average farm was $72,000, or $184 per acre.

Farm real estate values

Date	Total value	Value per farm	Value per acre
	Billion dollars	*Thousand dollars*	*Dollars*
November 1968	200. 6	71. 6	184
March 1968	193. 7	69. 1	178
November 1967	189. 5	65. 7	173
March 1967	182. 5	63. 3	167

Commercial farms with annual gross sales of $2,500 or more have higher values than the all-farm average. As of March 1, 1968, commercial farms averaged 550 acres, with land and buildings valued at $100,400 per farm. These farms ranged in value from $46,000 in the Appalachian region to $296,500 in the Pacific States. In contrast, farms having less than $2,500 gross sales annually averaged 120 acres with a value less than a fourth of that of commercial farms.

Farmland: Average acreage and value per farm, commercial farms and other farms, by region, March 1, 1968

Region	Commercial farms[1]		Other farms		All farms	
	Acreage per farm	Value per farm	Acreage per farm	Value per farm	Acreage per farm	Value per farm
	Acres	*Dollars*	*Acres*	*Dollars*	*Acres*	*Dollars*
Northeast	208	65, 500	88	26, 100	173	50, 900
Lake States	245	54, 200	100	19, 200	205	44, 600
Corn Belt	273	102, 200	86	21, 700	217	78, 300
Northern Plains	853	99, 200	183	24, 700	759	87, 000
Appalachian	184	46, 000	78	15, 800	126	29, 700
Southeast	395	87, 000	97	21, 900	226	50, 100
Delta	388	102, 300	102	21, 000	207	50, 900
Southern Plains	1, 265	165, 000	190	32, 400	648	88, 900
Mountain	2, 557	161, 000	438	43, 400	2, 159	127, 700
Pacific	890	296, 500	111	49, 800	552	185, 700
48 States	550	100, 400	120	24, 200	389	69, 100

[1] Farms having gross sales of $2,500 or more. Estimates projected from 1964 Census of Agriculture.

Approximately 2 percent of U.S. farmland changes hands annually. About 105,000 voluntary and estate sales representing 24.1 million acres took place in the year ended March 1, 1968.

Active farmers are the largest buyer group, usually purchasing land for farm enlargement. Six out of ten purchases are made by active farmers. Although farmers are also *selling* half of the land on the market, they are buying 3 acres for every 2 acres they sell. As a result they are increasing their land holdings.

20. AGRICULTURAL CREDIT

It appears that farmers most heavily in debt are making the greatest gains in both equities and income. As is pointed out in a June 1966 appraisal, such gains depend upon the use farmers make of credit (and leasing of land) to expand their operations: "* * * the most significant point is the extent to which the indebted farmers use their equities as a fulcrum for developing larger operations than their own financial resources would support. The most heavily indebted farmers owned 3½ times as much land and operated six times as much land as they could have owned or operated without borrowing or leasing."

Sellers themselves continue to be the major source of credit for farmland purchases. They financed over half of all credit sales in 1968; of these, approximately three-fourths were by land contract.

Over three-fourths of the sales in each of the past 3 years have involved credit. As a percentage of the sale price, debt incurred has moved upward, reaching 74 percent in March 1968.

Farmers borrow money for many reasons other than the purchase of land. Approximately two-thirds of Federal land bank and life insurance company new farm real estate secured credit is associated with other than land purchases. Agricultural loans may be defined as:

Real estate secured loans—all loans secured by farmland (including improvements).

Nonreal estate farm loans—all agricultural loans not secured by farm real estate. These loans are for such purposes as production expenses, capital investments, and living costs.

Intermediate-term farm loans—nonreal estate farm loans which have a repayment period exceeding 1 year.

Life insurance companies and the Federal land banks are the largest institutional holders of farm mortgages. On January 1, 1968, outstandings of each of these two lenders approximated $5.5 billion. Many banks have contracted with life insurance companies for sharing the farm mortgage business which the banks originate. In some cases the bank simply acts as an agent for the insurance company; in other cases the company agrees to buy farm mortgages from the bank within a given period.

The Federal land banks are under the supervision of the Farm Credit Administration, an independent permanent supervisory agency headed by a 13-member Farm Credit Board. The Farm Credit Administration also supervises and coordinates the activities of Federal Intermediate Credit Banks, the Banks for Cooperatives, the Federal Land Bank Association, and the Production Credit Associations.

Another source of farm credit commonly used is the country bank, but an increasing amount of bank credit to farmers is handled by city correspondent banks participating in loan arrangements originating at the country bank.

During 1968, rates of repayment on farm-mortgage loans remained favorable. The number of delinquent loans was so small as to be insignificant; foreclosures were practically nonexistent. Although many mortgage borrowers normally refinance earlier mortgage loans as a method of financing the expansion of farm units, farmers generally were reluctant to do so in 1968 due to the higher interest rates on new loans. Nonreal estate loans also continued in a generally strong position with few defaults in loan repayments.

21. CREDIT THROUGH FEDERAL AGENCIES

The Farmers Home Administration, an agency of the U.S. Department of Agriculture, provides a supplementary source of credit for farmers and others in rural areas who are unable to obtain financing through conventional lenders. The FHA was created to make loans of higher risk than are considered justifiable by other lending agencies. When an FHA borrower becomes eligible for credit from an independent lender, he is expected to refinance his FHA loan.

Farmer ownership loans are designed to help family farmers buy farms or land or enlarge farms; construct or repair buildings; improve land; develop water, forestry and fish farming resources; establish recreation and nonfarm enterprises to supplement income; and refinance debts. Loans may be made in amounts up to $60,000 for periods as long as 40 years. The interest rate is 5 percent.

Rural Housing loans are made to farmers and other rural residents of communities not larger than 5,500 in population. They may be used to buy existing residences or to build new houses and to acquire building sites. Maximum term is 33 years. The interest rate is 6¼ percent, except that low income families may qualify for rates as low as 1 percent. Other housing loan programs finance construction of rural rental units and housing for domestic farm laborers.

Operating loans are extended primarily to help farmers make needed adjustments and adopt improved farming practices. Funds are advanced for the purchase of equipment, livestock, feed, seed, and fertilizer; for other farm and home operating needs; to refinance chattel debts; to carry out forestry purposes; and to develop income-producing recreational enterprises. The total indebtedness for operating loans is limited to $35,000 for one borrower. Loans are made at 6⅝ percent interest and are to be repaid over a period not exceeding 7 years.

Emergency loans are available to assist farmers in designated emergency areas to continue farming. These loans may not be used to refinance existing debts or to compensate applicants for their losses. Emergency loans are made at 3 percent interest and are to be repaid as crop and livestock products are sold.

Water development and conservation loans are made principally to carry out soil conservation measures and to develop irrigation and farmstead water supply systems. Loans for shifts in land use, including the development of recreational facilities, are made to nonprofit associations. Individuals can borrow up to $60,000. An association's indebtedness cannot exceed $500,000 when the loan is made from appropriated funds, or $1 million when made from insured funds. The interest rate varies between 4½ and 5 percent, depending upon the type of loan. Repayment is scheduled over a period not exceeding 40 years.

Watershed loans are made to local organizations to help finance projects that protect and develop land and water resources in small watersheds. These loans are repayable over a period of up to 50 years, and the interest rate for loans made in fiscal 1967 is 3.225 percent.

The Rural Electrification Administration was established in 1935 and given permanent status by the Rural Electrification Act of 1936. The REA loan program is also helping to develop a rural telephone system. The REA is empowered to make loans to qualified borrowers, with preference to nonprofit and cooperative associations and to public bodies.

The Commodity Credit Corporation (CCC) is an important source of credit for many farmers in connection with production adjustment and price support programs. A CCC loan on the security of his stored crop enables the farmer participating in the programs to meet current operating and family living expenses without having to sell into harvest-laden markets at prices usually below the year's average.

He may also obtain a loan to install grain-drying and farm-storage facilities. Since the start of the storage facility loans in 1949, through 1968, about $422.7 million has been loaned. The 280,000 loans have included creation of storage capacity for almost 1.3 billion bushels.

Smaller farmers use the price support crop loans extensively. A study of the 1966 loans on 10 major commodities (omitting cotton) showed that the 239,250 loans averaged $3,816. A fifth were for less than $1,000, a third for less than $1,500, nearly half for less than $2,000, while less than 5 percent were for $10,000 or more.

22. FARM CREDIT ADMINISTRATION

The Farm Credit Administration is an independent Government agency that supervises the Cooperative Farm Credit System which obtains its loan funds by selling securities to investors. The Farm Credit System is completely owned and controlled by its users—farmers and their cooperatives. The System is made up of 12 Federal land banks and about 650 local Federal land bank associations, 450 local production credit associations, and 13 banks for cooperatives from which farmers' marketing, purchasing, and business service cooperatives obtain loans.

The Farm Credit System provides more than 20 percent of the credit used by farmers and their cooperatives. Borrowers from other lending institutions benefit from its operations because other lenders tend to follow the lead of the System in setting the terms of loans.

About 900,000 farmers and 3,000 farmer cooperatives are owner-members of the System. These members now borrow $10 billion a year from the cooperative Farm Credit System. They currently are using $13 billion of credit in outstanding loans from the System.

The Farm Credit Administration operates under a 13-man, part-time policymaking Federal Farm Credit Board. Twelve members of the board are appointed for 6-year staggered terms by the President of the United States. The 13th member is appointed by the Secretary of Agriculture and acts as his representative.

23. THE BALANCE SHEET

On January 1, 1969, the total farm debt outstanding was $54.7 billion—$19.8 billion, or 57 percent, higher than on January 1, 1964.

During 1968 farm real estate secured debt increased $1.7 billion, or 7 percent. In the preceding 3 years the increase was about 10 percent annually. The increase in total farm debt in 1968 occurred in both real estate secured farm debt and other farm debt, though the percentage increase in nonreal estate debt was slightly less.

However, the dollar increase in total farm debt was far less than the increase in the equities of operators and landlords in their businesses. That increase in 1968 was $10.2 billion.

The total value of farm assets was estimated at $297.9 billion at the beginning of 1969, up from $283.4 billion at the beginning of 1968. This increase—5 percent—was about the same as the rate of increase in the previous year. Total debts, including Commodity Credit Corporation loans, increased 8.6 percent. The equities of farmers and other owners of farm property increased $10.2 billion, or 4 percent. The largest dollar increase in equities since 1951–52 was $13.5 billion in 1965.

As in other recent years, the major factors causing the rise in the value of total assets was the increase in farm real estate values. Farmland and buildings have long represented the major agricultural asset, accounting for about two-thirds of total assets in recent years. Unlike other assets, however, most of the annual increases in total value result from higher per acre values rather than from changes in physical quantities. In fact, the acreage of land in farms has been declining at the rate of about 4 million acres annually since 1959, compared with an annual rate of about 7 million acres between 1954 and 1959. The total decline between 1950 and 1969 amounts to about 79 million acres.

Partly offsetting this decline in the land inventory is the continuing investment being made in land improvements, especially in irrigation, land clearing, and pasture improvement. In addition, substantial amounts of public investments are made annually which become incorporated in the market values of farm real estate.

24. FARM PRICES

Farm prices today fall into four categories: (1) For some commodities the prices are set in the open market, and such prices fluctuate widely depending on product supply and demand. Prices for beef cattle, hogs, eggs, and many fresh fruits and vegetables fall into this category. (2) The prices of some commodities are supported by law at preannounced levels, so that they do not fluctuate widely. Such commodities as wheat, rice, corn, grain sorghum, cotton, soybeans, sugar, peanuts, and tobacco fall into this category. (3) For milk, a combination of price supports for butter and manufacturing milk, along with Federal marketing orders for fluid milk, keep prices relatively stable; often milk prices remain unchanged for months at a time. (4) Many farm commodity prices are negotiated between producers and buyers. For example, processors contract with growers for such items as broilers, canning tomatoes, and sugarbeets. The contracting process has been more widely used in many commodities in recent years.

In a free market, farm prices tend to be unstable. First, farm production itself is not stable. Second, the demand for farm products is relatively inelastic. People tend to consume about the same amount of farm products whether the price goes up or down. Economists calculate that in the aggregate for all commodities, every 1-percent increase in supply is associated with a drop in price of 4 percent. Farm prices tend to swing more widely than farm production.

Since farmers compete with each other, lower costs per unit have led to lower prices per unit. Many farmers have struggled to improve net income per farm by increasing the size of operation. Many others who have not kept pace have found themselves unable to remain in farming.

Prices tend to fluctuate more at the farm level than at the retail level because the farm price is only part of the consumers' cost. Processing and marketing services are added to the farm prices, and these costs do not usually fluctuate as widely as the prices of farm products. For a highly processed item, such as a loaf of bread, the cost of the wheat is only 14 percent of the total consumer price. For many products, the decline in farm prices must be almost catastrophic before the consumer will notice it at the retail level.

25. PRICE INDEXES

An index is an indicator, as the index finger is the indicator finger. A *price index* is an indicator of the average level of prices in relation to prices at some other period. A price index provides a comparison of average prices for a group of items at a particular time with average prices for these items during an earlier period, called the "base period."

The *Index-of-Prices-Received-by-Farmers* is based on 56 commodities accounting for over 90 percent of the value of all products that farmers sell.

The companion index is the parity index which measures changes in prices paid by farmers for goods and services used in family living and farm production, interest, taxes, and farm wage rates. Separate indexes are published for prices paid, interest, taxes, and wage rates. The prices paid index is divided into two major groups and 15 subgroups. Each of the subgroups represents different types of commodity—food and tobacco, clothing, motor vehicles, farm machinery, etc.

The base period commonly used is 1910–14, but index numbers also are computed on a 1957–59-equals-100 basis. The 1910–14 base period is specified by law. The 1957–59 base is used for ready comparison with other price and production indexes. Indexes are published not only for all farm products combined, but also for two major groups and 15 subgroups, each representing a particular type of commodity-food grains, feed grains, etc.

26. PARITY PRICES AND PARITY RATIO

The parity ratio is a measure of the per unit purchasing power of farm products in terms of goods and services farmers buy in relation to the 1910–14 base period.

When the parity ratio is 100, prices received by farmers are in the same relationship to prices paid by farmers as they were in 1910–14. This means that a given quantity of a standard list of farm products could be exchanged for the same amount of a standard list of goods and services farmers buy. If the index of prices received is higher relative to the base period than prices paid by farmers, the parity ratio is *above* 100. Farm products then can be exchanged for a larger amount of goods and services farmers buy than they could in the base period. When the parity ratio falls below 100, farm products have less purchasing power than in the base period. They can be exchanged for a smaller amount of goods and services.

Arithmetically the *parity* ratio is obtained by dividing the index of prices received by farmers by the index of prices paid by farmers, including interest, taxes, and farm wage rates.

A parity-type measure is used on the golf course. When par ("base period" in parity) for a course is 72, then 72 is a good score. When the player scores below par, he is doing fine; if his score rises above par, he is not doing as well. In farming, par is 100, but the ratio is reversed. When the parity ratio is *below* 100, the farmers' goods buy less. The further below 100 the parity ratio drops, the less his goods will buy.

Parity prices are used as a guide for marketing agreements and are an important factor in determining price support levels.

Beginning with the 1910–14 base period average of 100, the parity ratio (buying power of farm products) rose to 120 in 1917—during World War I. In June 1932, during the depth of the depression, it reached a low point of 53. However, by March 1943—during World War II—the parity ratio rose to 117. It dropped slightly for 2 years, then began climbing to a new yearly high, 115, in 1947. Since then the parity ratio trended downward through 1965, when it was 77. In 1966, prices received increased relative to prices paid, and the parity ratio averaged 80, but it declined to 73 in 1968. In June 1969, it stood at 76.

In view of the importance of nonprice income supplements, such as Government payments, an adjusted parity ratio has been developed. The adjusted parity ratio, which includes Government payments, has ranged from an average of 79 in 1967 and 1968 to 86 in 1966. In June 1969, it was 82.

The parity price formula omits a consideration of the quantities of goods farmers sell and the kinds and quantities of the things they buy. For this reason, the relationship between the parity ratio and net farm income is not as close as it once was. For example, the adjusted parity ratio averaged 82 in both 1959 and 1965. Realized net farm income was $11.4 billion in 1959, $14.0 billion in 1965. The difference of 23 percent in realized net income is important to farmers, and it emphasizes that the parity ratio has limitations as a measure of their economic position. Strict adherence to the parity price formula may result in discounting the contribution to spendable income which accompanies rising productivity, when there is more output per unit of input.

In addition to farm income, many people receive income from various nonfarm sources. While nonfarm income is especially important to small operators who would find it impossible to make a satisfactory living from agriculture alone, nonfarm income is also significant for some farmers with high gross yearly sales (in excess of $10,000). The total income from nonfarm sources for all persons living on farms in 1968 was an estimated $10.9 billion. The average realized net income per farm in 1968, computed on the basis of some 3.1 million farms, was $4,863.

The average realized net is reached only by a minority of the farms. For example, in 1968 realized net income per farm from farming was $4,863. However, probably about two-thirds of the farms did not reach the overall average net farm income figure in actual income. The average realized net income per farm of farms with $10,000 to $19,999 gross yearly sales in 1967 was only $6,266. Only these farms and those with higher gross yearly sales, 32 percent of the total number of farms, had a realized net in excess of $4,863.

Income is by no means evenly distributed among farm operators. Incomes of farmers differ and vary greatly from one region of the country to another and within the same region, and from one year to another. Capital investments vary similarly.

27. FARM INCOME

Realized gross farm income in 1968 was a record, about $51 billion, over 4 percent above the previous year. Realized net farm income ($14.9 billion) was $600 million higher than in 1967.

The higher gross income for 1968 reflects an increase of some 4 percent in cash receipts from farm marketings plus a rise in direct Government payments. The volume of farm products marketed in 1968 was up almost 2 percent from 1967.

Farmers received an average of 3 percent higher prices for their products in 1968 than in 1967. Livestock and livestock product prices averaged 4 percent higher while crop prices were up 1 percent. Receipts from marketings of meat animals were up 6 percent. The fruits and nuts group was up about 12 percent.

In 1968, direct Government payments to farmers (50 States) were about $3.5 billion compared with about $3.1 billion in 1967. The 1968 payments are grouped below according to principal purposes.

Production incentives:	*Millions*
Sugar	$75.0
Wool	66.0
Milk indemnity	0.2
Total	141.0

Acreage adjustment and price support:	*Millions*
Feed grain	1,336.0
Cotton	786.0
Wheat	747.0
Total	2,869.0

Conservation and long-term land retirement programs:	*Millions*
Agricultural Conservation Program	$208.0
Emergency conservation measures	8.0
Appalachian Land Stabilization and Conservation Program	2.0
Cropland Conversion Program	3.0
Soil Bank Conservation Reserve	108.0
Cropland Adjustment Program	81.0
Great Plains Conservation Program	12.0
Total	422.0

The comparable 1967 group totals were $114 million (Production Incentives), $452 million (Conservation and Long-term Land Retirement Programs), and $2,258 million (Acreage Adjustment and Price Support).

Farmers' 1967 incomes

Sales classes	Realized net farm income	Off-farm income	Total income including nonmoney income from farm food and housing[1]
	Dollars	*Dollars*	*Dollars*
Farms with sales:			
All farms	4,526	4,452	8,978
$40,000 and over	23,754	5,027	28,781
$20,000 to $39,999	9,792	2,887	12,679
$10,000 to $19,999	6,266	2,709	8,975
$5,000 to $9,999	3,585	3,809	7,394
$2,500 to $4,999	2,019	4,119	6,138
Less than $2,500	1,018	5,681	6,699

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[1] Includes Government payments.

In terms of cash receipts from farm marketings, California, with $4.3 billion, led all other States in 1968. Iowa, with about $3.5 billion, was in second place. The other eight States in the top 10 order of cash receipts from farm marketings in 1968 were Texas, Illinois, Minnesota, Nebraska, Kansas, Wisconsin, Missouri, and Indiana. North Carolina, Florida, Georgia, New York, and Ohio, with over $1 billion in receipts, were not far behind. The remaining States are out of the billion-dollar class for cash receipts, many of them far out. Rhode Island had $20 million in cash receipts; Alaska, at the bottom, had an estimated $4 million.

Net farm income[1]

Type of farm	1957–59	1967[2]
	Dollars	*Dollars*
Dairy farms:		
New York	4, 299	7, 900
Eastern Wisconsin (Grade A)	5, 317	10, 114
Broiler farms:		
Delmarva	4, 332	8, 347
Corn Belt farms:		
Hog beef raising	3, 974	6, 077
Cash grain	7, 212	13, 902
Wheat farms:		
Southern Plains	9, 137	10, 695
Northern Plains	4, 401	7, 488
Cattle ranches:		
Northern Plains	5, 249	9, 109

[1] Net farm income is the return to operator and unpaid members of the family for their labor and management on the farm and return to total capital. No allowance has been made for rent, interest, or mortgage; farm is assumed to be owner operated and debt free.

[2] Preliminary.

Farmers' financial well-being is also affected by their net worths. The average farm in the United States today is worth over $100,000 for the land and buildings. Farm real estate has been appreciating about 5.5 percent per year, compounded, since 1960.

28. IMPROVING FARM INCOME

Built-in differences distinguish the farming sector from the business and industrial sectors of the economy. In contrast to the U.S. automotive industry, for example, no firm or group of firms dominates farming. Approximately a million commercial farmers compete to supply the market with farm products. (The other 2 million smaller, subsistence, and residential part-time farmers supply altogether only about 15 percent of total farm marketings.)

Unlike industrial goods made and sold under protection of patents, copyrights, and brand names, one farmer's grain is like another's. It enters a market too huge for prices to rise if he decides to grow and market less. Ten to 15 percent more crops can readily be produced from presently available cropland at prevailing prices if markets were available to absorb them. For each 1 percent of excess supply in a satisfied market, prices may fall as much as 4 percent. Natural hazards which industry largely escapes compel growers toward overplanting to insure ample harvests. If prospect of oversupply then develops in midseason, growers cannot prevent the calamity of market gluts at harvest by "factory cutbacks."

Much of industry generally follows a "market-oriented" production course. Managers of steel mills, auto plants, and other factories run them below capacity when demand slackens, inventory piles up, or prices and prospects appear unfavorable.

If all grain growers could somehow agree to adjust production toward market demand, resulting prices might represent returns more satisfactorily comparable with those realized in other undertakings. Lacking this, individual farmers find no way open to raise income except to increase production, though prices may fall lower as many plant more.

While powerless individually to influence prices they get for their products, farmers annually buy—in considerable part from sellers not so powerless—$48 billion worth of goods and services necessary to production and family living. They buy, for example, nearly $5 billion worth of new farm tractors, motor vehicles, and other machinery and equipment; nearly $4 billion worth of fuel, lubricants, and maintenance; more petroleum than any other single industry; tires and other rubber products comprising 7 percent of the total used in the United States.

If low farm prices significantly stimulated food consumption by lowering retail prices, higher market volume might offset lower prices and raise farm income. But rises in such indispensable marketing charges as freight, processing, and merchandising, which account for about 60 percent of retail food costs, may cancel lower farm prices or even cost consumers more.

A 1-pound loaf of white bread averaged 18.5 cents at retail in 1957–59 when the wheat in it had a farm value of 2.4 cents. Early in 1969, when the loaf cost 22.8 cents, wheat in it brought the farmer 2.5 cents, including some of his wheat program benefits.

Moreover, even at lower prices, people eat only about so much food in total. When a man's income doubles, he may buy two cars, a bigger house, more clothes—but he will not eat much more bread. Total U.S. food consumption tends to rise only about in line with population growth.

In this complex situation, Federal programs have been developed to help farmers improve their bargaining positions. Some programs assist orderly marketing to avoid gluts through such measures as assistance to farmers' cooperatives, marketing agreements and orders, and price-support loans on crops held in storage until needed in markets.

Others are measures enabling farmers to adjust production of major crops toward actual market demand, just as other industries do, by reserving from use a proportion of production capacity excessive to the market's current requirements. With these measures in effect, the proportion of potential capacity actually used in agriculture closely parallels the proportion of industrial capacity used:

	Percentage of capacity utilized		
	1960	*1966*	*1967*
Manufacturing industries	81	91	85
Agricultural production for commercial markets	91	88	88

29. PRICE-SUPPORT PROGRAMS

Agricultural price-support programs are financed by the Commodity Credit Corporation (CCC) and administered by USDA's Agricultural Stabilization and Conservation Service (ASCS).

ASC State and county committees are key units in ASCS's field organization. The farmer-elected county committees of farmers are responsible for local administration of acreage adjustment, price-support loan, conservation, and other programs requiring direct dealings with farmers. The participating farmer's point of contact is the county ASCS office, usually located at the county seat.

Price-support programs apply to the food grains wheat, rye, and rice; to the feed grains corn, grain sorghum, barley, and oats; to cotton; to the oilseeds soybeans, cottonseed, and flaxseed; to milk and butterfat; to wool and mohair; to sugar, peanuts, tobacco, dry edible beans, honey, tung nuts, and crude pine gum.

Prices are supported at preannounced levels set under statutory formulas. Methods include loans on crops held in storage by farmers' market purchases in times of excess supply, and in the case of wheat, corn, grain sorghum, barley, cotton, sugar, and wool and mohair, by direct payments to participants. (Food and Agriculture Act of 1965.)

Price-support payments in wheat, feed grain, and cotton programs are conditioned upon participation in production adjustment programs. Together with acreage diversion payments, when applicable, they supplement income from direct market receipts for growers who forego a part of market income opportunity by participating in production adjustments. The supplement makes it feasible to set price-support loan levels about equal to world prices, making these export crops more competitive for markets abroad.

Wheat price support is afforded through domestic marketing certificates issued to the participating grower, covering his pro rata share of the crop usually consumed domestically as food. The value per bushel is the difference between the price support loan rate and parity price July 1, first day of the wheat marketing year. The first 75 cents per bushel is financed by requiring millers to buy certificates for all wheat processed for domestic food.

Sugar Act payments are, in effect, incentives to maintain output of a critical commodity of which little or none would be produced by U.S. growers at world prices. Payments are conditioned upon compliance with provisions of the act, aiming at stable supplies and prices. They are financed by a tax on sugar processed in the United States.

National Wool Act payments are likewise production incentives, geared to encourage quality as well. Earmarked wool tariff receipts finance them.

Payments to farmers in 1968—including diversion and conservation payments as well as price support—are shown on page 31. The price-support payments included in those totals were $638.8 million on cotton, $746 million on wheat, and $628.3 million on feed grains.

Price-support loans on eligible storable commodities are made to producers through ASCS county offices. Loans on tobacco, peanuts, and naval stores are made to the cooperative associations acting for individual producers. Milk and butterfat prices are supported mainly through purchases from processors of excess market supplies of processed dairy products.

Price-support loans are "nonrecourse." If market prices rise above the support loan level, the producer can pay off his loan, with interest, and sell the commodity. If the market prices do not exceed support levels, he can surrender the commodity to CCC in full discharge of the loan. Eligibility is conditioned upon participation in applicable commodity programs.

Loans generally are available during several months following harvest, until a month before a loan-maturity date which is announced for the crop. When a "reseal" program is announced, farmers may also continue their price-support loans on certain grains in on-farm storage facilities beyond the first season. They thereby earn storage payments during the extended reseal period.

The extent to which farmers utilize the loan program and reseal provisions when applicable, in order to promote orderly marketing in periods when bountiful harvests tend to depress prices, is illustrated by quantities of some principal crops placed under loan or kept under reseal, as shown in the following table:

Crop	Status as of June 30, 1968		Status as of June 30, 1969					
	1967 crop		1968 crop			1968 and older total held		Percent of annual average crop, 1962–66
	Amount placed	Percent of crop	Amount placed	Percent of crop	1968 loans outstanding	Reseal	In loan	
	Million bushels		*Million bushels*		*Million bushels*	*Million bushels*	*Million bushels*	
Wheat	270. 1	17. 7	444. 5	28. 3	71. 6	394. 1	465. 7	37. 8
Corn	438. 7	9. 2	398. 6	9. 1	294. 6	391. 6	686. 2	17. 7
Barley	46. 6	12. 2	116. 0	27. 7	56. 5	41. 5	98. 0	24. 6
Sorghum	63. 6	8. 4	73. 6	9. 9	46. 1	50. 5	96. 6	16. 2
Soybeans	197. 0	20. 2	335. 3	31. 1	240. 4	72. 1	312. 5	40. 7

In periods of overample supply, CCC-owned stocks build up through market purchases made to help support prices and takeover of unredeemed nonrecourse loans. These stocks are in turn released into the market as needed to stabilize supplies and prices in periods of less than usual market supply, or are channeled into domestic and foreign food aid programs.

30. PRODUCTION ADJUSTMENT

Acreage allotments apply to cotton, wheat, rice, peanuts, and most kinds of tobacco. Acreage diversions have been used for the feed grains, corn, grain sorghum, and barley in recent years, and (in addition to allotments) for cotton and wheat. No diversion from wheat allotments was programed for 1968, but after a worldwide bumper crop that year, diversion was restored in the 1969 program. No cotton diversion was programed in 1969.

When supplies of certain commodities exceed specified levels, marketing quotas can be invoked by a producer referendum in which at least two-thirds vote their approval. Marketing quotas have applied in recent years to cotton, peanuts, rice, and most kinds of tobacco. When quotas on these crops are in effect, any excess production of the crop—that is, in general, production from acreage in excess of the farm allotment—is subject to penalties if marketed.

National acreage allotments are divided among farms on the basis of past history of production of the crop and on other factors. In total, more than 3 million farm acreage allotments are determined yearly. To participate in allotment programs, producers harvest within the acreage allotments set for the commodity on their farms.

Including nearly 14 million acres withheld from crop use under longer term programs, such as the Conservation Reserve, Cropland Conversion, and Cropland Adjustment programs, land shifted from crop production to other uses totaled about 49 million acres in 1968.

Wheat, feed grains (corn, grain sorghum, barley, oats), and cotton, together accounting for over half the acreage of annual crops harvested, are the major crops under adjustment and price-support programs. The extent of participation and the proportions of acreages of these crops affected in 1968 follow:

Crop	Number of farms		Acreage				
				Under program			
	U.S. total	Under program	U.S. total [1]	Total	Diverted [2]	Planted	U.S. total harvested [3]
Wheat	1, 692, 000	803, 000 (47%)	59, 254, 000	50, 155, 000 (85%)	([4]) (0%)	50, 765, 000	55, 309, 000
Feed grains	3, 022, 000	1, 427, 000 (47%)	115, 096, 000	72, 122, 000 (63%)	32, 410, 000 (45%)	36, 296, 000	[5] 96, 602, 000
Upland cotton	556, 000	460, 000 (83%)	15, 691, 000	14, 908, 000 (95%)	3, 318, 000 (22%)	10, 914, 000	[6] 10, 175, 000

[1] Allotment or base acreage on all farms in the United States producing stated crop.

[2] Percentages are proportion of acreage of given crop on participating farms.

[3] By participants and nonparticipants, as reported by Crop Reporting Board.

[4] No wheat diversion was programed in 1968.

[5] Includes oats and barley harvested, as well as corn and sorghum for grain.

[6] Includes minor acreage of extra long staple as well as upland cotton.

To participate in acreage diversion programs, applicable in 1968 to feed gains and upland cotton, producers signed up to reduce their acreage by at least a required minimum amount below the farm's base acreage of feed grains (average of 1959–60) or the cotton allotment, also based on production history.

When a producer reduces acreage in order to bring total output into closer line with demand he thereby foregoes opportunity for market income in order that all growers may benefit pricewise. Diversion payments compensate producers for this in proportion to the diversion made. Diversion payments totaled $885.2 million in 1968—$144.7 million for cotton, $740.5 million for feed grains.

Acreage diversions, avoiding further excessive output, have helped achieve substantial reductions in surplus grain stocks which had accumulated in earlier years. This avoidance has been estimated as averaging 158 million bushels of wheat and 56 million tons of feed grains annually.

Programs resulting in longer term shifts of cropland to other uses supplement the annual program commodity acreage diversions. The extent to which longer term programs authorized by law are actually carried out in any year depends upon the funds made available, as well as upon the decisions of farmers regarding participation.

The Cropland Conversion Program carried on in selected counties on a pilot basis since 1963 helps farmers shift land from crops in ample supply into long-range, income-producing uses such as outdoor recreation, wildlife habitat, woodland, and water storage.

Enacted in 1965, the Cropland Adjustment Program during 1966 and 1967 offered contracts to take out of production for a period of 5 to 10 years a farm's entire base or allotment of at least one "program" crop. Special features also encourage more open space accessible to the public, and help local, State, and other public agencies to establish permanent parks, recreational and educational centers, and pollution control areas.

The Agricultural Conservation Program (ACP) has helped farmers establish more of the permanent conservation practices which they would generally be unlikely to carry out to the needed extent without cost-sharing aid. The cost-share aid is usually on a 50–50 basis, but may reach 80 percent for low-income farmers, who use the program extensively. Cost-share payments average only a little over $200 per participating farm. Nearly 2.3 million farms participated at least once during the 5 years, 1964–68.

The Great Plains Conservation Program, for which the Soil Conservation Service has leadership responsibility, offers cost-sharing through long-term contractual agreements to help landowners in 424 counties in the Great Plains establish all needed conservation on their entire operating units. Under the program, changes from cropland to permanent cover, mainly grass, have taken place on about 2 million acres. The need for shifts from cropland to grassland is indicated by soil surveys which show the capability of the land resource.

Under the Appalachian Regional Development Act of 1965, the Appalachian Land Stabilization and Conservation Program is administered by ASCS in designated counties of 13 States. Financial aid and technical assistance are provided for conservation and development of soil, water, woodland, wildlife, and recreation resources, under 3- to 10-year contracts. Cost-sharing is available to farmers at 80 percent of the cost of necessary practices, limited to 50 acres per eligible farm. Through 1968, contracts were in effect on 11,253 farms, involving 123,733 acres.

Projects having communitywide benefit, such as flood control, are encouraged. Besides direct benefits through conservation of the national patrimony, ACP practices tend toward shifting land into noncrop uses such as woodland, improved pasture, ponds, and wildlife habitat.

31. COMMODITY DISPOSAL

Commodities acquired under the price-support program are made available for movement into consumption channels both at home and abroad as needs require to keep CCC inventories at manageable levels.

Many outlets are employed in moving CCC commodities into use. Some are sold in the United States for dollars. Some are sold for export, either as commercial transactions, or under various Government programs. They are never sold for domestic use at less than legal minimum levels, or current market prices, whichever is higher, except under authorized programs to meet emergency needs, such as for livestock feed in disaster areas. Substantial quantities of food commodities are transferred, on either a reimbursable or nonreimbursable basis, for eventual donation to school lunch programs, Veterans Administration and Armed Forces hospitals, needy Indians, and through welfare organizations to other needy persons in the United States and abroad.

During the 1964–68 period, some $11.7 billion worth of commodities were moved into use through these methods:

	Food aid (thousands)	*Trade channels (thousands)*	*Total (thousands)*
Domestic	$1, 249, 368	$4, 822, 362	$6, 071, 730
Foreign	1, 247, 948	4, 354, 460	5, 602, 408
Total	2, 497, 316	9, 176, 822	11, 674, 138

32. SECTION 32 PROGRAMS

Each year 30 percent of all customs receipts are made available to the Secretary of Agriculture to be used to stabilize producer prices and encourage domestic consumption, to feed the hungry, and to encourage export of agricultural commodities.

These funds—commonly called Section 32 (Section 32, Public Law 320)—act as a safety valve for oversupply, principally of perishable nonbasic commodities. Section 32 programs, though they are little known, have been in use for 32 years. They provide a wide range of services and make it possible to find uses for many surplus farm commodities that might otherwise be wasted.

The most frequently used of the Section 32 programs is the one which encourages domestic consumption and stabilizes producer prices. Purchase programs conducted with Section 32 funds help to level prices to producers by removing some of the oversupply of a commodity from normal trade channels and increasing its use by low-income groups.

Increasing the export of American farm products is also a function of Section 32 programs. Section 32 funds may be used to pay an exporter a differential so that he can pay domestic producers the going rate and still sell the product overseas at a profit. Section 32 funds are also used for marketing agreements and orders, and diversion of farm products programs.

MARKETING

33. THE MARKETING BILL

Consumer expenditures on farm foods between 1958 and 1968 increased 47 percent, going from $61.0 billion a year to about $89.5 billion. Marketing agencies received 74 percent of the total increase, or $21.1 billion; the increase in returns to farmers amounted to $7.4 billion.

In 1968 it cost $60.6 billion to get food from farm to consumer. The figure—the bill for marketing farm food products—was 5 percent, or $3.1 billion, above 1967.

The 5-percent increase in the marketing bill for 1968 compared with an average annual increase of 4 percent during 1957 to 1967.

The cost of labor is the biggest part of the total marketing bill. Labor used by assemblers, manufacturers, wholesalers, retailers, and eating places cost $27.3 billion in 1968, compared with $25.1 billion in 1967. The figures include the work of supervisors, managers, officers, clerical workers, proprietors, and family members, as well as production and other nonsupervisory workers.

Labor costs have not increased as rapidly as most other major components of the marketing bill. Labor costs amounted to about 45 percent of the total marketing bill in 1968, 43 percent in 1958.

While labor costs per hour rose about 58 percent between 1958 and 1968, the cost per unit of food marketed climbed only 26 percent—the result of a steady increase in output per man-hour.

Between 1958 and 1968 the number of workers in food processing firms and retail food stores remained about constant. But the number of workers in eating places climbed by 26 percent and in wholesaling and assembling by 13 percent. The total number of food marketing workers in 1968 was 11 percent greater than a decade earlier.

The addition of food services has increased the cost of food marketing by about one-sixth per unit of food since 1957–59. One reason for this increase in the cost of marketing is that more people are eating out more often. Public eating places typically charge a margin of 50 to 60 percent of the retail value of the food served. Margins for the same foods in a chain retail food store average around 22 percent.

More convenience foods are sold now than 20 year ago. Convenience foods are used to mean foods with "built-in maid service." In recent years they have added the quality of "built-in chef service" as well. Whole dinners can be purchased in a package. Boil-in-the-bag foods, prepared potato products, soluble coffee and instant puddings, frozen baked goods, brown-and-serve rolls, ready-to-bake bread—all of these are now common items for purchase. Some of them cost the consumer more; some do not. Nearly all are timesaving, and only the cook can judge the value of time saved in the kitchen.

A USDA study conducted several years ago revealed that some convenience foods cost less in their processed forms. In a list of 158 convenience food items, three-fourths were found to cost more; they averaged 27 percent more than equivalent portions would have cost in fresh or unprocessed form. But one-fourth of the items processed and sold in a convenience form cost less than their cost would be without the processing. They averaged 40 percent less than the fresh or home-prepared form. Frozen orange juice, canned or frozen peas, and frozen lima beans are examples. These had lower transportation costs because of the elimination of waste and bulk and loss from spoilage.

34. MARKETING MARGINS

Milk: The marketing margin—the difference in what the farmer receives and the retail price—for fluid milk sold in retail stores was 27.1 cents a half gallon in 1968 or about half of the retail price of 53.7 cents. The margin is the charge made by marketing firms for assembling, processing, transporting, and distributing the milk. The farm value of a half gallon of milk was 26.6 cents. During the past 10 years from 1958 to 1968, the retail price increased 15 percent; farm value increased 22 percent, and the marketing margin increased 9 percent.

Meat: The difference between what the farmer gets for meat animals on the hoof and what the consumer pays for the meat varies. In 1968, the marketing margin for beef was 34.8 cents per pound, or two-fifths of the retail price. The margin for pork was 32.9 cents, or about half of the retail price. The margin for lamb was 42.2 cents per pound, or slightly less than half of the retail price.

Marketing margins for pork increased by 13 percent from 1958 to 1968; margins for beef widened by 16 percent; and margins for lamb by 41 percent.

Florida oranges: The orange picked off a tree in Florida is very different from the orange the housewife pays for at the supermarket checkout counter. After being picked, the orange is hauled from the grove to the packinghouse. It may be degreened, washed, brushed, waxed, inspected, sorted, packed, loaded onto a railroad car or truck, and shipped to market. At the terminal market, it is unloaded, sold, hauled to the wholesaler's warehouse, unloaded, sold to a retailer, loaded and hauled to his store. At the retail store, it is unloaded, moved into the store, put onto the display rack, separated from damaged and spoiled fruit, and finally sold to the consumer.

The marketing charge for a 90-pound box of Florida oranges sold in New York in 1967–68 averaged $9.46. The Florida grower received an average of $2.18 per box for these oranges on the tree, 19 percent of the $11.64 retail price.

White bread: The marketing margin for white bread is a much larger proportion of the retail price than it is for most food products. In 1968, the average price of a pound loaf of white bread was 22.4 cents; the farm value of the wheat was 2.6 cents (including the cost of the marketing certificate—75 cents per bushel—but not the additional payment from the U.S. Treasury which participating growers received on their shares of the proportion of the crop used for domestic food purposes). Other ingredients amounted to 0.7 cent. The remaining portion of the retail price, or 19.1 cents, is the marketing margin. The margin has increased 3.1 cents per loaf since 1958, whereas the farm value of wheat and other ingredients increased only 0.4 cent.

The farmers' share of breakfast: In 1968, a half gallon of milk cost 53.7 cents in retail food stores; of this the farmer got 26.6 cents. From the 31.2 cents for a typical box of cornflakes, the farmer got 2.4 cents. Of the 21.1 cents for a 6-ounce can of frozen concentrated orange juice, the grower received 9.0 cents. For a dozen eggs retailing at 52.9 cents, the poultryman got 32.4 cents. And for a 22.4-cent loaf of bread, the farmer got 2.6 cents for the wheat.

35. FOOD PRICES AND EXPENDITURES

Food prices have risen since 1957–59, along with other consumer items in the cost-of-living index. For all items other than food, the increase to 1968 was 22 percent. The price of transportation increased 20 percent; housing, 19 percent; personal care, 20 percent; medical care, 45 percent. For all food (including that served in restaurants), the increase was 19 percent.

Total food expenditures in 1968 were $101.2 billion, an increase of about 7 percent from 1967. The average was $503 per capita, 5 percent above 1967. The increase was about matched by a comparable rise in disposable personal income ("take-home pay"), so that 16.8 percent of total disposable income was spent for food in 1968, slightly less than in 1967. The percentage of disposable personal income spent for food was 18.4 percent in 1964, 20 percent in 1960, 22.2 percent in 1950, and an average of 24.6 percent for 1947–49.

Consumers buy some foods which do not originate on U.S. farms. Expenditures for foods originating on U.S. farms accounted for 15.2 percent of disposable personal income in 1968, a total of $89.5 billion. The farm value of this food was $28.9 billion—4.9 percent of disposable income. The other $60.6 billion—10.3 percent—represents the total bill for marketing (including processing, distribution, and food served away from home).

The average family income in 1967 was $7,974, 6 percent above 1966 and more than double the average of $3,319 in 1950. After allowing for the increase in consumer prices, the income gain in 1967 amounted to 3 percent over 1966 and 73 percent over 1950. Only 3.3 percent of all families had incomes over $10,000 in 1950 compared with 34.4 percent in 1967.

Since 1950 the percentage of income going to pay the marketing bill has declined slightly (down 2.3 percent by 1968). The percentage of income going to farmers has declined even more (down 3.8 percent since 1950). In 1968 the percentage of personal income going to farmers and for the marketing bill was slightly less than in 1967.

One hour's work in a factory buys more food today than it did 20 or 30 years ago. Pay for 1 hour's factory labor would buy—

2.6 pounds of round steak in 1968; 1.5 pounds in 1948; 1.8 pounds in 1938, or
3.7 pounds of bacon in 1968; 1.7 pounds in 1948; 1.7 pounds in 1938, or
11.2 quarts of milk in 1968; 6.4 quarts in 1948; 5.4 quarts in 1938, or
3.1 dozen oranges in 1968; 3.0 dozen in 1948; 2.3 dozen in 1938.

36. THE MARKET BASKET

Changes in prices paid by consumers for U.S.-produced farm foods are measured by a device known as the "market basket." This is a method of measuring the month-to-month prices of food purchased by households. Qualities and kinds of foods figured in the "market basket" are held constant for long periods of time, thus making it possible to measure changes in prices of the same kinds and qualities of food.

In 1957–59, the farmer received $388 for food in the market basket, which was 39 percent of the retail cost. In 1968 the farmer received $434, also 39 percent of the retail value of the market basket, which was $1,118. The cost of marketing services in 1968 was $684, compared with an average of $595 in 1957–59.

The retail cost of the market basket rose 14 percent from 1957–59 to 1968, while the average expenditure per person for food increased 32 percent. The difference between the two is due largely to increased buying of more expensive foods, additional marketing services, and the fact that more food was moving through the marketing system because farmers were buying foods at stores which they had previously raised on their farms.

Farmers received an average of 39 cents of the *dollar* consumers spent for food in 1968, 1 cent more than in 1967. In the past 10 years, the farmer's share ranged from 37 to 40 cents. The farmer's share depends both upon the prices he receives for his product and the costs of marketing it. The more marketing services, the greater the cost. The farmer's share of the consumer's dollar is smaller for a highly serviced product such as bread than for an unprocessed product such as eggs. The wide variation of the farmer's share of the consumer's *dollar* among products is shown by the tabulation below:

From each dollar spent, the farmer received—

	1968 cents	*1957–59 cents*
Beef, Choice grade	60	62
Butter	72	72
Eggs, Grade A large	61	64
Cornflakes	8	10
Bread, white	15	16
Apples	36	31
Potatoes	28	31
Canned corn	12	13
Canned peaches	18	18

37. CHANGES IN FOOD BUYING PATTERNS

The continuing change in the processing and distribution of food is a response to the continuing change in the Nation's total economy and technology. When market conditions shift or transportation facilities improve, food buying patterns and costs also change. In a free economy, the principal controlling factor is competition.

The basis for competition itself changes. The principle underlying influences on food purchases during the 1960's can be stated simply: There are more people and they have more money.

The number of U.S. consumers has been rising by 2 to 2½ million persons annually in recent years. Many who formerly grew a large part of the food they ate moved from farm to town and now buy most of their food. Many farm families buy food now. And not all who stop farming move to town. Some commute to nonfarm jobs.

The population also shifts. In metropolitan areas, the suburbs have increased in population rapidly, while center city populations have increased more slowly or, as in many instances, markedly decreased. These changes affect the number and location of retail stores and processing plants, the amount and types of food sold, and food prices.

Rising incomes also have an important impact on the food industry. Income per person, after taxes, rose by nearly 60 percent in a period of only 10 years—from 1958 to 1968. Consumers in recent years have been able to eat expensive rather than cheap calories as they never have before. More consumers now buy steak instead of beans, demand high quality in all foods. They can afford to pay for packaging and variety in their foods, to shop in attractive stores, and occasionally to splurge and indulge themselves in the most expensive foods and food services.

The demand for food services is more elastic—it expands more with income than the demand for raw food materials per person.

The pounds of food utilized per person has been declining slowly since World War II, but diets have shifted from inexpensive to more expensive foods—for example, from cereals to meat.

Other factors affect buying patterns. When people do not expend much physical energy at work, they tend to eat less. The increasing shift from manual to machine labor results in a significant decrease in per capita food consumption. Better knowledge of nutrition has shifted demand away from some foods, notably those high in fat.

More women are working outside the home. The number has risen from 29 percent of the total labor force in 1948 to 37 percent in 1968. A working woman is likely to change her cooking habits; if she has a family, the family will change its eating habits. Chances are they will spend more and buy more food services.

38. MARKETING ORDERS

Milk: Marketing orders are agreements among producers, usually started by them, but issued by the Secretary of Agriculture after investigation of market conditions and public hearings. Federal milk marketing orders establish minimum prices, based upon supply and demand conditions, at which milk handlers or dealers may buy milk from dairy farmers. The order must be approved by at least two-thirds of the dairymen supplying milk to a regional market. A three-fourths favorable vote is required under some circumstances. Public hearings are held on all proposed changes.

Operating at the first level of trade—where milk leaves the farm and enters the marketing system—Federal orders lay the foundation for building more stable marketing conditions between dairy farmers and dealers. They contain a built-in flexibility needed to cope with conditions that might endanger the milk supply. To those living in Federal milk marketing areas, this means a sure supply of fresh, high-quality milk. Most of the Nation's major population centers are within a marketing order area.

Fruits, vegetables, and specialty crops: Growers of certain fruits, vegetables, and specialty crops (olives, hops, some nut crops are examples) use marketing agreement and order programs to bring greater stability and orderliness to marketing. There were 48 such programs at the beginning of 1967 covering $1½ billion in crops grown in 33 States.

As in the case of milk marketing orders, orders for fruit and vegetable growers are issued by the Secretary of Agriculture, only after a public hearing where producers, marketers, and consumers may be heard, and after approval by the producers by vote. After an order has been issued, the growers and handlers administer it through a committee made up of industry members. Their work is financed by assessing the membership.

Most of the programs have quality regulations, which keep inferior grades and less desirable sizes of a commodity off the market. Many have quantity regulations, which prevent gluts and shortages on the market by keeping the commodity moving in orderly fashion throughout the marketing season. Some programs also have marketing research and development authority, permitting projects to find new market outlets, to improve marketing, and to advertise and promote consumption.

39. FARMER COOPERATIVES

Farmer cooperatives market farm products, handle farm supplies, and provide related services for their members.

A survey of the farmer cooperative businesses—marketing, supply, and related service ones only—for the year July 1, 1966, to June 30, 1967, showed a total net business volume of $16.6 billion. In total net dollar volume of business California, Minnesota, and Iowa were first, second, and third among the States. The total gross business volume—the amount that adds business between cooperatives to the net figure—amounted to $21.9 billion for the year.

Some 8,125 farmer cooperatives are functioning in the United States, with total memberships of 6.5 million. (The figure contains duplications since many farmers are members of more than one cooperative.) Minnesota leads in number of memberships with nearly 600,000.

The survey also showed that 5,068 cooperatives, or 63 percent, were engaged primarily in the marketing of farm products; 2,865, or 35 percent, did more than help their business in farm supplies; and 178, or 2 percent, performed services related to marketing or purchasing activities.

The net value of all farm products marketed amounted to $12.9 billion. Dairy, grain, and livestock led in product value in that order. The net value of farm production supplies amounted to $3.3 billion, and the leading farm supplies handled were feed, petroleum, and fertilizer. Receipts for trucking, storage, drying, ginning, grinding, and similar services were $318 million.

40. CONTRACT FARMING

Some farmers operate under contracts with a processor or supplier. The contract may specify the quantity and quality of product to be produced. It may, as in the case of chickens, specify the feeding ration for the broilers. The contractor may guarantee the price the farmer will receive or guarantee that certain costs will be covered. The contractor may supply some of the production inputs, or may advance production credit. In various ways, contract farming has brought new opportunities to farmers and rural people.

Contracting arrangements have changed over the years. The trend is toward providing the farmer a guaranteed minimum return for his labor and investment.

Broiler production today is a form of close coordination between farmer and processor. Broiler growers reduce their marketing risks and get a guaranteed labor return. Production is concentrated in operations that make fullest use of laborsaving equipment.

The sugarbeet industry is a different example of contract farming. Nearly all sugarbeet growers in this country have contracts with processors. The contracts insure them a market.

Sugarbeets are grown under contracts that guarantee a market for growers and a source of beets for processors. Processors and grower bargaining associations negotiate contracts that tie the price of sugarbeets to the price of sugar. The contracts also specify acreage, delivery dates, payment schedules, seed, growing methods, and marketing practices.

The Government, as required by the Sugar Act, analyzes contracts and determines that prices are fair and reasonable. The Sugar Act also provides for the establishment of proportional shares, the setting of minimum wages for field workers, and the banning of child labor. Growers receive Government payments for compliance.

There are many other examples of contract farming. Various forms of these arrangements have existed for a long time in commercial fruit and tree nut production. Contract farming accounts for about two-thirds of the vegetables produced for canning and freezing.

So-called "vertical" coordination in farm production has many variations. These range from simple verbal agreements for processing or marketing to the complete ownership and operation by business. Contract farming lies between these limits. It is one way for a farmer to share some of his risks with his supplier, processor, or distributor and still remain somewhat independent.

41. CONSUMER FOOD PROGRAMS

Consumer food programs—the National School Lunch, Special Milk, Child Nutrition, Food Stamp, Plentiful Foods, Commodity Distribution, Special Food Service for Children, and Supplement Foods for Health—help to improve people's health and nutrition, make constructive use of our Nation's agricultural abundance, and widen markets for agricultural commodities. Each program also makes its own contribution to expanding markets for food.

The U.S. Department of Agriculture's domestic food aid programs helped 20 million people in the United States in 1968. As fiscal 1968 ended, food donation programs to schools, needy families, and charitable institutions were functioning in all 50 States, Puerto Rico, the Virgin Islands, Guam, the Trust Territory of the Pacific Islands, and American Samoa.

School Breakfast Program—A 2-year test got underway in January 1967 with a $2 million appropriation enabling a few schools in nearly every State to begin breakfast service the first year. Federal help in cash and donated foods covers most of the food costs. Local communities meet other costs. Children can get breakfast at a nominal price of 10 to 15 cents. For especially needy children the breakfast is without charge.

The National School Lunch Program encourages schools to serve nutritious and moderately priced lunches. Participating schools agree to serve a lunch which meets one-third to one-half of the daily needs of growing children. It must include a protein-rich food, a generous serving of fruits and vegetables, bread and butter (or fortified margarine), and one-half pint of milk.

Normally, more than three-fourths of the food consumed is purchased locally by schools. The remainder is supplied by the Department of Agriculture. Schools also receive cash reimbursement for each lunch served that meets the Department's nutritional standards. Federal payments amounted to $160 million in fiscal year 1968. The funds provided lunches for children unable to pay.

The Special Milk Program helps schools and other nonprofit childcare institutions make more fluid milk available to more children. The program provides Federal payments for each half-pint of milk served to children at a reduced price. In 1968 this aid amounted to almost $101.8 million and stimulated the consumption of some 3 billion half-pints of milk. The combination of the National School Lunch and Special Milk Programs now accounts for almost 5.5 percent of the annual nonfarm consumption of fluid milk. Under the special assistance phase of the program, free milk is provided to especially needy children.

The Food Stamp Program increases the consumption of food among low-income families. Under this program, the families exchange the amount of money they would normally be expected to spend for food for coupons of a higher monetary value. The coupons are used to purchase food at prevailing prices at any authorized retail food store. In March 1969 the program was operating in 1,387 areas in 42 States and the District of Columbia. More than 3.1 million persons were participating.

The Plentiful Foods Program assists producers and marketing groups to promote the sale and use of seasonally and other abundant foods. This assistance is accomplished by mobilizing, on a voluntary basis, the merchandising and informational resources of food trade, food service, and allied groups.

The Commodity Distribution Program is a system under which foods acquired under price support, surplus removal, and special purchase programs are distributed directly to schools, institutions, and needy persons through State governmental agencies. In 1968 over 21 million school children, 1.3 million needy persons in institutions, and a peak of 3.5 million needy persons in family units benefited. Under this program, foods are donated to State distributing agencies (i.e., State governmental departments under agreement with the Department of Agriculture), which in turn distribute the food to eligible outlets and persons. In fiscal 1968 over 1.9 million pounds of food worth $423 million were distributed.

Special Food Service Program for Children—Authorized by a 1968 amendment to the National School Lunch Program, it is "a new dimension in child nutrition." It provides food service for preschool children in day-care centers, settlement houses, and other nonprofit institutions, as well as needy school children in summer recreation programs. Initial reports showed that some 574 of these child-feeding projects were operating with over 21,000 children benefiting.

Supplement Foods for Health—Inaugurated in late 1968, this program provides special foods on a prescription basis to low-income mothers, expectant mothers, and children. Initial reports showed that this program was operating in 86 areas in 20 States with some 27,000 participants.

42. USDA GRADING AND STANDARDS

USDA food grading enables the housewife or the wholesale buyer to make buying decisions more easily and accurately. Grading indicates the quality of food. Some products are also graded for size—eggs, for example. However, size and quality are not related.

Buying graded foods does not necessarily mean buying only the best or most expensive. Grades offer a choice of quality so the buyer can pick the most suitable item for a particular purpose—for example, top grades of eggs for poaching or frying, lower grades for cooking and baking.

USDA either grades or supervises the grading of one-third of the butter, cheese, and nonfat dry milk produced in the United States; nearly two-thirds of the beef; more than half of the lamb and mutton; two-thirds of the poultry; one-fourth of the shell eggs; over three-fourths of the frozen fruits and vegetables; almost half of the canned fruits and vegetables; most of the grain that moves in commercial channels; nearly all of the cotton; and all of the tobacco sold at auction.

In 1968, USDA grades were applied to 60 percent of the turkeys and 64 percent of the Nation's beef. Some 13 billion pounds of beef and 6.5 billion pounds of poultry were graded.

USDA's grading services—and the Nation's efficient marketing system—depend on nationally uniform standards. Under our standardized grading system, buyers in New York can order a carload of produce from California and know in advance the quality of the shipment. More than 560 grade standards are now in effect for farm products. Standards must be kept up to date with current marketing practices and with consumer needs. In 1968, USDA's Consumer and Marketing Service issued 144 new or revised standards.

43. FOREIGN TRADE—EXPORTS

The United States is the world's leading exporter of agricultural products. In fiscal year 1967/68, nearly one-fifth of the world's agricultural exports were shipped from the United States.

The Nation exported over $6.3 billion of agricultural products in fiscal year 1967/68—7 percent below the previous fiscal year, but 16 percent above the 1961–65 average. Crops from one of every four harvested acres were exported. The output of 71 million acres of U.S. cropland moved abroad.

The export market accounted for nearly three-fourths of the U.S. production of dried edible peas; almost two-thirds of the rice; about half of the wheat (including flour equivalent), cotton, and hides and skins; over 40 percent of the soybeans; about one-third of the tallow, tobacco, hops, raisins, and dried prunes; one-fourth of the flaxseed and grain sorghums; and about one-fifth of the nonfat dry milk, lemons and limes, and dried edible beans. As a share of quantity sold, corn was nearly one-fourth.

U.S. agricultural exports in 1967/68 required financing, inland transportation, storage, and ocean transportation for 58 million long tons of cargo—enough to fill over 1.4 million freight cars or 5,000 cargo ships. In moving these exports, an average of 14 ships departed each day.

Eight States—Illinois, Texas, California, Iowa, North Carolina, Kansas, Arkansas, and Indiana—accounted for 50 percent of the Nation's $6,315 million worth of agricultural exports in fiscal year 1967/68. Illinois, with an estimated export share of $585 million, was the Nation's leading export State. Texas had $551 million, and California was third, with $413 million of attributed exports. Illinois' main exports were feed grains, soybeans, soybean oil, wheat, and protein meal; Texas' main exports were feed grains, cotton, wheat, and rice; California's principal exports were fruits and preparations, vegetables and preparations, cotton, and rice.

The largest increases by State occurred in Texas and four North Central States—Kansas, Iowa, Indiana, and Illinois. Their value of exports in 1967/68 was from two to four times greater than the 1953/54 level.

In 1967/68, exports in three groups of U.S. farm products—wheat and flour, feed grains, oilseeds and products—had a value of more than $1 billion each. These three accounted for 55 percent of the total exports of farm products.

Of the $6.3 billion U.S. agricultural exports in 1967–68, $4.7 billion were commercial sales for dollars, and $1.6 billion moved under Public Law 480 (foreign currency sales, donations, barter, and long-term supply and dollar credit sales) and Agency for International Development (AID) programs. Exports under Government programs were 25 percent of total agricultural exports in 1967–68.

Fiscal year 1967–68 completed the 14th year of operation of Public Law 480. During this period exports under this authority totaled $18.2 billion, 26 percent of total exports of U.S. farm products. An additional $2.2 billion, 3 percent of total exports, moved under AID programs, bringing total exports under specified Government-financed programs for the 14-year period to $20.4 billion—29 percent of total agricultural exports.

Although U.S. agricultural exports go to over 150 countries around the world, 73 percent of the exports in 1967–68 went to 15 countries. The chief market area was Asia, which includes Japan ($898 million), India ($511 million), and Pakistan ($169 million). Europe ($2.4 billion) followed Asia and included the European Economic Community ($1.4 billion), the European Free Trade Association ($653 million), and Eastern Europe ($132 million). Other marketing areas and value of exports to them are: Canada ($543 million), Latin America ($587 million), Africa ($219 million), and Oceania ($46 million). Exports to Canada included shipments of $78 million worth of grains and soybeans for storage in Canada and for transshipment to foreign ports, mainly those in the European Economic Community and the European Free Trade Association.

44. IMPORTS

The United States is the world's third largest agricultural importing country. The United Kingdom continued to be the world's largest agricultural importer in 1967, with imports of $5.6 billion. West Germany was the second largest importer, taking $4.63 billion compared with U.S. imports of $4.62 billion. Japan is the fourth largest importer of farm products ($3.3 billion); France and Italy are tied at $2.6 billion for fifth and sixth; and the Netherlands is seventh ($1.5 billion).

U.S. agricultural imports increased 5 percent in value during fiscal year 1967–68. Imports for consumption were $4.7 billion. Imports were the largest since 1951–52, when they grew substantially from the impetus of the Korean conflict. Imports of supplementary (partially competitive) products totaled $2.8 billion, and the increase in these imports accounted for nearly all of the total increase. Complementary (noncompetitive) items were $1.8 billion—up 1 percent from 1966–67.

Imports of complementary products consisted mainly of coffee, crude natural rubber, cocoa beans, carpet wool, bananas, tea, spices, and cordage fiber. About half of the agricultural imports—including nearly all of the complementary imports—were free of duty in fiscal year 1967–68.

U.S. imports of agricultural commodities come from more than 150 countries, but over three-fifths of the agricultural imports come from 15 countries. In fiscal year 1967–68, 61 percent came from 15 of these countries. They accounted for 71 percent of supplementary imports and 46 percent of the complementary items. Most of the agricultural suppliers were newly developing countries with predominantly agricultural economies. Imports from Brazil—the major supplier—totaled $516 million in 1967–68; Mexico ($354 million) and the Philippines ($316 million) were second and third largest suppliers.

Latin American countries supplied the bulk (55 percent) of U.S. complementary agricultural imports. Brazil was the major source ($387 million) and Colombia was second ($153 million). Central American Common Market countries together supplied $175 million.

U.S. domestic exports of agricultural products in fiscal 1968 exceeded agricultural imports by $1.6 billion.

45. BALANCE OF PAYMENTS

A statement of economic transactions involving the exchange of goods, services, gold, and capital claims between a country and foreign countries is called a "balance of payments."

People in the United States pay other countries for imported goods and for services. Other outlays are made to foreign countries for economic and military assistance, for investments, private remittances, pensions, and other transfers of funds. The United States receives funds from other countries, mainly in payment for exports and services, mutual defense, investment, and repayments on U.S. Government loans.

A balance of payments deficit occurs when total payments to foreign countries are greater than receipts from foreign countries. A deficit for the United States means the accumulation abroad of U.S. dollar reserves, which official monetary agencies of foreign countries may convert to gold.

The United States has incurred a balance of payments deficit in each year of this decade except 1968 when an $0.2 billion surplus was recorded. The cumulative deficit between 1960 and 1968 inclusive was $20.1 billion and has brought about substantial decrease in U.S. gold reserves. Between January 1, 1960, and December 31, 1968, U.S. gold reserves dropped from $19.5 billion to $10.9 billion. The high point in gold reserves was $24.8 billion in August 1949.

Balance of payments deficits can be corrected by measures to increase receipts and reduce the volume of payments. Among other measures to improve the U.S. balance of payments, the United States is trying to increase exports of agricultural and industrial products.

"Kennedy Round" is the popular name for the Sixth Round of General Agreement on Tariffs and Trade negotiations, which formally got underway in Geneva, Switzerland, in May 1964. Fifty countries participated in the Sixth Round, and the negotiations, concluded in June 1967, brought about a measure of trade liberalization.

Agricultural exports give the United States substantial balance of payments help. From 1960 through 1968, overseas cash sales of U.S. farm products brought $39.8 billion back to the United States. Features of Public Law 480 program (Food for Peace) enabled the United States to earn dollars or avoid dollar outlays amounting to $2 billion over the 9-year period. The aggregate contribution of agricultural exports to the U.S. balance of payments between 1960 and 1968 was $41.8 billion.

"Balance of trade" is the difference in value between a country's merchandise exports and imports in a specified period. The balance of trade is called "favorable" when exports exceed imports and "unfavorable" when the reverse occurs. The United States has had a farvorable balance of trade almost every year since 1874.

However, a country's balance of trade is only one factor in its balance of payments. In 1967 the United States had a favorable trade balance of $3.5 billion and yet had a balance of payments deficit of $3.6 billion as other items more than offset it.

46. EUROPEAN ECONOMIC COMMUNITY

The European Economic Community is the customs union composed of Belgium, France, West Germany, Italy, Luxembourg, and the Netherlands. Established in 1958 by the Treaty of Rome, the Community contains about 185 million people. Tariffs between the member countries were finally eliminated on July 1, 1968; a common external tariff now applies to trade with outside countries. A Common Agricultural Policy covers most farm commodities. To provide for ultimate economic union of the six countries, common policies are planned for transportation, labor, investment, energy, social welfare, taxation, establishment of corporations, etc. The goal is to remove legal obstacles to competition and allow free exchange of goods and services within the Community.

Since July 1, 1968, executive responsibility for the EEC has been merged into the new Commission of the European Communities. The

EC also incorporates the European Coal and Steel Community and the European Atomic Energy Community.

Rome Treaty goals for agricultural policy are increased efficiency, a "fair" standard of living for farmers, stable markets, regular supplies, and "reasonable" consumer prices. To bring this about, the CAP provides for common prices, common import protection (mainly variable levies) and export subsidies, and payments to promote structural change.

The Treaty allows for membership or associate membership for other European countries. Greece became an associate member in 1962; Turkey in 1964. Both can eventually become full members. Long discussions with the United Kingdom, Austria, and Spain have produced no new memberships. Denmark, Norway, and Sweden are applicants of long standing. Eighteen African countries—former territories—are granted special trade and aid benefits under the Yaounde Convention. Burundi, Cameroon, Central African Republic, Chad, Congo (Brazzaville), Congo (Kinshasa), Dahomey, Gabon, Ivory Coast, Malagasy Republic, Mali, Mauritania, Niger, Rwanda, Senegal, Somali Republic, Togo, and Upper Volta enjoy this type of association by virtue of their colonial or territorial status in 1958.

Other associates are the remaining overseas territories of full members, such as French Somaliland, French Polynesia, and Surinam. An association agreement negotiated with Nigeria in 1964 has not been ratified. The members of the East African Community, Kenya, Uganda, and Tanzania, signed an association agreement in July 1968. Morocco, Tunisia, and other African countries have sought special preferences. Other countries, such as Iran, Israel, and Lebanon, have signed trade agreements with the EEC. Headquarters for the European Communities are in Brussels.

RURAL UNITED STATES (NONFARM)

47. RURAL POPULATION

The United States today is largely an urban nation. Farm people make up only 5 percent of the U.S. population, and large numbers of them are continuing to leave the farm.

Farm Population

	Million
1966	11. 6
1967	10. 9
1968	10. 5

Small farms simply do not offer enough economic opportunity today, especially for young people. As older farmers pass on, their sons and grandsons are likely to combine the old place with two others to make a large enough unit to be economically attractive, or they are likely to seek opportunities outside of farming.

Estimates are that by 1980 more than three-fourths of the Nation's population (projected at 235 million) will reside in urban areas.

Rural America is undergoing a transformation too. Only 22 percent of our rural workers were employed in agricultural industries in 1960. Manufacturing is the leading source of rural employment today, and its share is increasing.

Nonfarm residents made up 57 percent of the rural population in 1940, 71 percent in 1960, and nonfarm residents are expected to make up 86 percent of the rural population in 1980.

The first U.S. Census showing the country had become predominantly urban was in 1920, when the urban population numbered 54.1 million as compared with 51.5 million rural (49 percent). However, in absolute terms the rural population grew steadily from 3.7 million in 1790 to 61.1 million in 1950 (old definition of urban), or 54.4 million using the current definition. Today less than 30 percent of the U.S. population lives in rural areas (current definition) and less than 25 percent of these 54 million rural residents live on farms and earn their livelihood from agriculture.

During World War II and immediately following, urban growth more than doubled its previous level, while the overall rural population increased only 3.7 million. From the 1940 level of 30.2 million, the farm population declined to 15.6 million in 1960 (about 50 percent) and to an estimated 10.5 million farm residents in 1968.

On the other hand, the rural nonfarm population, most of whom have little or no connection with agriculture, shifted from 31.2 million in 1950 to 40.6 million (75 percent of the rural population) in 1960. If estimates that the rural population has remained nearly constant since 1960 are correct, the rural nonfarm population in 1968 would be about 46 million persons.

The substantial growth in urban population, however, does not mean that most areas of the country are taken over by housing tract and highway. There are more "wide open spaces" in America today than at any time since the closing of the frontier in the late 19th century. Fewer areas are under cultivation today than previously, even though farms are becoming larger.

48. AGE AND RACE

The net migration from the farms has produced many problems of both urban and rural adjustment in recent years. For example, the rural population has a larger proportion of children under 15 years of age (33.4 percent of the rural population), as compared with the urban (30.1 percent of the urban population). There is a relative shortage of persons in the 20- to 64-year age group, particularly in the most mobile age group, those 20 to 44 years old. The rural population 65 years old and over is slightly larger than that of the urban areas.

By 1960 Negro and other minority groups comprised only 28 percent of the 20.5 million rural residents. Except for the American Indians, most Negroes and other minority groups live in urban areas.

Since 1960, these groups as a percent of farm population have been declining more rapidly than the white. Between 1960 and 1968, about 28 percent of the drop in farm population was the result of their exodus.

49. HEALTH FACILITIES

The number of personnel in health occupations in rural areas is much lower than in urban areas. The number of practicing physicians was 170.7 in greater metropolitan areas, compared with 43.2 for isolated rural areas, per 100,000 population in 1966. Though modern transportation has reduced the need for complete local health services and facilities, persons living in many rural areas do not have the ease of access to specialized health care available to persons living in or near metropolitan areas. For both economic and professional reasons, metropolitan areas attract more specialized health personnel. Access to teaching and research centers, more and better hospitals, better economic and social characteristics contribute to the concentration of health personnel in major metropolitan areas.

50. HOUSING

Housing in rural areas is generally less adequate than housing in urban areas. In 1960, there were 14.7 million occupied rural dwelling units of which 11.1 million were rural nonfarm and 3.6 million farm dwelling units. According to Census of Housing condition classification, 73.5 percent of the rural occupied housing units, 74.5 percent of the occupied rural nonfarm housing units, and 69.7 percent of the occupied farm housing units were in sound condition in 1960.

Differences in housing conditions are more pronounced between regions than between urban and rural locations. In general, housing conditions were poorest in the southern regions. For example, over 41 percent of all rural nonfarm and over 43 percent of all farm housing units in the East South Central region were classified as not sound in 1960. Similarly the South Atlantic and the West South Central regions had over one-third of all their rural housing classified as not sound in 1960.

51. MANPOWER UTILIZATION

In 1960, about 51 percent of the rural population 14 years old and over was in the labor force, compared with 57 percent for the urban population. The difference is due principally to the fact that fewer rural than urban women work for pay.

The rural labor force is rapidly becoming nonagricultural. In 1960, 78.2 percent of all rural employed persons were engaged in nonagricultural industries. A comparison of the work force for rural nonfarm and farm populations reveals that 92 percent of the rural nonfarm persons employed in 1960 did not work in agricultural industries, whereas 60 percent of the employed farm population was employed in agricultural industries.

Analyses of 1960 census data show that after standardizing for the effect upon income-earning capacity of age composition, level of education, labor force status, occupational structure, racial composition, and civilian-military composition, rural farm males between 20 and 64 years of age had a median income only 77 percent of that prevailing for comparable persons in the Nation as a whole. On the same basis, the median income of rural nonfarm males was 91 percent of that attained by their income-earning counterparts in the country at large.

52. EDUCATION

The level of educational attainment is generally lower among rural than urban people. In 1960, the median school years completed by the population 25 years or older was 9.2 years for rural, compared with 11.1 years for urban residents. Similarly, the proportion of adults with some college education in 1960 was 11 percent for rural and 19 percent for urban residents.

Total expenditure for education is generally lower in rural areas. Even though rural areas spend more or about an equal share of their personal income for education, the expenditure per pupil in rural schools tends to be lower than elsewhere. This is in part due to the high cost of transportation, lower incomes, and the lower school tax base in the more isolated rural areas. Many of these schools also lack the modern facilities of larger urban schools.

53. INCOME (RURAL UNITED STATES)

Rural family income is below that of the urban family, and farm family income is lower yet. The median income of rural families in 1959 was 77 percent of the median income of all U.S. families, and only 71 percent of the median income of urban families.

Between 1959 and 1966 the median income of all U.S. families increased by 23 percent while the farm family median income increased by almost 32 percent. Progress obviously has been made toward closing the gap between farm and nonfarm population. In 1966, however, farm families had a median income only 58 percent of that attained by nonfarm families.

In 1959, approximately 17.4 million rural persons were living in poverty. Of these persons in poverty, approximately 11.2 million were nonfarm residents and 6.2 million lived on farms. In 1966, it was estimated that 2.5 million and 8.6 million of the 11.1 million remaining in poverty were farm and nonfarm residents respectively.

APPENDIX

FARM FIGURES OFTEN REQUESTED

How has the rising productivity and total output been matched by shrinkage in man-hours required and in farms and numbers of farm people? If the parity (price) ratio has been sinking, what about net income? Are farm people getting incomes closer to those of nonfarmers? What does the balance sheet show about net worth of farmers in real estate and other assets? Have they been laying aside more liquid assets—cash, bank accounts, bonds, co-op stock? As output rises faster than U.S. population and less land supports more of our people better, are we cashing in on exports?

The following statistics answer many questions about ups and downs and trends in factors important to U.S. agriculture.

Year	Farms		Farm population			Agriculture's capacity to produce (Index: 1957–59=100)						
						Man-hours		Crops		Livestock		Overall
	Number	Change	Number	Change	Percent of total	Required	Per man-hour index	Volume index	Per acre index	Volume index	Per unit index	Volume index
	Thousands	*Thousands*	*Thousands*	*Thousands*		*Millions*						
1949	5,722	−81	24,194	−189	16.2	16,202	58	92	85	85	86	87
1950	5,648	−74	23,048	−1,146	15.2	15,137	61	89	84	88	86	86
1951	5,428	−220	21,890	−1,158	14.2	15,222	63	91	85	92	89	89
1952	5,198	−230	21,748	−142	13.9	14,504	69	95	90	92	89	92
1953	4,984	−214	19,874	−1,874	12.5	13,966	73	94	89	93	93	93
Average	5,396	−164	22,151	−902	14.2	15,006	65	92	87	90	89	89
1954	4,798	−186	19,019	−855	11.7	13,310	76	93	88	96	92	93
1955	4,654	−144	19,078	+59	11.5	12,808	81	96	91	99	93	96
1956	4,515	−140	18,712	−366	11.1	12,028	87	95	92	99	98	97
1957	4,372	−142	17,656	−1,056	10.3	11,059	92	93	93	96	96	95
1958	4,233	−139	17,128	−528	9.8	10,548	103	104	105	99	100	102
Average	4,514	−158	18,319	−549	10.9	11,951	88	96	94	98	96	97
1959	4,097	−136	16,592	−536	9.4	10,301	105	103	102	104	104	103
1960	3,962	−135	15,635	−957	8.7	9,821	115	108	109	102	105	106
1961	3,821	−141	14,803	−832	8.1	9,450	120	107	112	106	109	107
1962	3,685	−136	14,313	−490	7.7	9,055	127	107	115	107	108	108
1963	3,561	−124	13,367	−946	7.1	8,762	135	112	118	111	110	112
Average	3,825	−134	14,942	−752	8.1	9,478	120	107	111	106	107	107
1964	3,442	−119	12,954	−413	6.7	8,321	142	109	115	113	113	112
1965	3,340	−102	12,363	−591	6.4	7,901	153	115	122	111	111	115
1966	3,239	−101	11,595	−768	5.9	7,512	157	112	119	114	118	113
1967	3,146	−93	10,817	−778	5.4	7,408	169	117	122	117	119	118
1968	3.059	−87	10,400	−417	5.2	^{e}7,300	N.A.	^{e}113	N.A.	^{e}114	N.A.	^{e}114
Average:	3,245	−100	11,626	−593	5.9	^{e}7,688	^{e}160	^{e}115	^{e}116	^{e}114	^{e}115	^{e}114

N.A.=Not Available. ^{e}=Estimate.

SOURCES: Agricultural Statistics 1967 and 1968; Farm Income Situation, July 1968.

Year	Parity ratio (1910–14=100)		Income in agriculture				Assets of proprietors			Acres harvested			Value of agricultural exports
			Realized net, farm operators		Per capita for farm people								
	Unadjusted	Adjusted [1]	Total	Per farm	Amount	Nonfarm income	Net real estate	Financial [2]	Total net [3]	Total	Domestic use per capita	For export	
			Million dollars	*Dollars*	*Dollars*	*Percent*	*Billion dollars*	*Billion dollars*	*Billion dollars*	*Millions*			*Million dollars*
1949	100	100	13,646	2,385	758	55.7	71.3	16.1	123.5	360	1.97	45	3,830
1950	101	102	12,861	2,277	841	57.7	69.7	15.9	120.1	345	1.82	50	2,986
1951	107	108	14,803	2,727	990	64.0	80.5	16.1	138.4	344	1.73	59	3,411
1952	100	101	14,129	2,718	952	59.2	88.4	16.6	152.3	349	1.90	36	4,053
1953	92	93	13,711	2,751	918	54.7	89.3	16.7	148.2	348	1.90	31	2,819
Average	100	101	13,830	2,563	888	58.3	79.8	16.3	136.5	349	1.86	44	3,420
1954	89	89	12,012	2,503	886	52.8	87.3	17.0	144.3	346	1.84	37	2,936
1955	84	85	11,249	2,417	854	48.2	90.0	17.5	147.5	340	1.72	47	3,144
1956	83	84	11,900	2,636	885	47.8	93.9	18.0	150.8	324	1.52	60	3,496
1957	82	85	10,707	2,449	927	48.7	100.6	18.0	158.6	324	1.57	48	4,728
1958	85	88	12,675	2,994	1,062	55.5	105.5	18.3	165.4	324	1.57	44	4,003
Average	85	86	11,709	2,594	920	50.6	95.7	17.8	153.3	332	1.64	47	3,661
1959	81	82	11,362	2,773	1,001	50.1	113.3	19.2	178.6	324	1.45	61	3,719
1960	80	81	11,736	2,962	1,100	54.5	118.1	18.2	178.3	324	1.42	64	4,517
1961	80	83	12,646	3,309	1,226	59.8	118.9	18.0	177.8	303	1.27	67	4,946
1962	80	83	12,619	3,424	1,308	61.5	124.1	18.3	184.2	295	1.21	66	5,142
1963	78	81	12,583	3,533	1,410	64.4	128.6	18.9	189.3	300	1.16	77	5,078
Average	80	82	12,189	3,187	1,199	58.2	120.6	18.5	181.6	309	1.30	67	4,680
1964	76	80	13,086	3,802	1,462	62.5	135.3	19.1	194.9	310	1.17	74	6,068
1965	77	82	13,993	4,190	1,772	71.5	142.0	19.8	200.9	298	1.12	76	6,097
1966	80	86	16,193	5,000	1,976	74.9	151.3	20.6	214.4	295	1.13	69	6,676
1967	74	79	14,241	4,526	2,037	73.2	159.2	21.1	224.1	308	1.18	71	6,761
1968	73	79	14,852	4,863	2,158	73.0	168.2	22.1	233.1	300	*1.15	N.A.	6,315
Average	76	81	14,473	4,460	1,840	71.4	151.2	20.5	213.5	302	*1.15	*72	6,383

[1] Ratio adjusted to include farm program payments.

[2] Includes currency, deposits, U.S. savings bonds, co-op stock investment.

[3] Total net assets includes these, net real estate equities, and net value other physical items.

N.A.=Not Available. *=Estimate.

SOURCES: Agricultural Statistics 1967 and 1968; Agricultural Prices; Balance Sheet of Agriculture; Farm Income Situation.

TABULAR SUMMARIES OF STATE AGRICULTURE

Cash receipts from farm marketings

State	Receipts for 1968 [1]			Principal commodity in order of cash receipts	Total cash receipts for 1967 [2]
	Total	Crops	Livestock and livestock products		
	Million dollars	*Million dollars*	*Million dollars*		*Million dollars*
Alabama	638	194	444	Broilers, cattle, eggs, dairy products	683
Alaska	4	1	3	Dairy products, potatoes, eggs, cattle	4
Arizona	555	304	251	Cattle, cotton lint, lettuce, dairy products	574
Arkansas	955	502	453	Soybeans, broilers, rice, cotton lint	954
California	4, 263	2, 644	1, 619	Cattle, dairy products, tomatoes, eggs	3, 990
Colorado	949	216	733	Cattle, dairy products, wheat, sugarbeets	943
Connecticut	160	64	96	Dairy products, eggs, tobacco, cattle	161
Delaware	125	38	87	Broilers, corn, dairy products, soybeans	134
Florida	1, 218	865	353	Oranges, cattle, dairy products, tomatoes	1, 080
Georgia	1, 026	413	613	Broilers, eggs, peanuts, cattle	1, 111
Hawaii	205	167	38	Sugarcane, pineapple, cattle, dairy products	208
Idaho	529	291	238	Cattle, potatoes, wheat, dairy products	557
Illinois	2, 592	1, 330	1, 262	Corn, hogs, cattle, soybeans	2, 630
Indiana	1, 372	583	789	Hogs, corn, cattle, soybeans	1, 469
Iowa	3, 523	830	2, 693	Cattle, hogs, corn, soybeans	3, 580
Kansas	1, 553	538	1, 015	Cattle, wheat, hogs, sorghum grain	1, 693
Kentucky	772	379	393	Tobacco, cattle, dairy products, hogs	862
Louisiana	632	402	230	Rice, cattle, soybeans, sugarcane	650
Maine	207	69	138	Broilers, potatoes, eggs, dairy products	214
Maryland	344	108	236	Broilers, dairy products, cattle, tobacco	333
Massachusetts	159	70	89	Dairy products, eggs, cranberries, tobacco	157
Michigan	867	399	468	Dairy products, cattle, dry beans, hogs	911
Minnesota	1, 813	524	1, 289	Cattle, dairy products, hogs, soybeans	1, 926

Mississippi	794	380	414	Cotton lint, cattle, soybeans, broilers	928
Missouri	1, 374	441	933	Cattle, hogs, soybeans, dairy products	1, 458
Montana	477	196	281	Cattle, wheat, barley, sugarbeets	557
Nebraska	1, 692	454	1, 238	Cattle, hogs, corn, wheat	1, 870
Nevada	59	11	48	Cattle, dairy products, hay, alfalfa seed	59
New Hampshire	57	12	45	Dairy products, eggs, cattle, apples	57
New Jersey	258	152	106	Dairy products, eggs, tomatoes, asparagus	256
New Mexico	339	100	239	Cattle, cotton lint, dairy products, hay	351
New York	1, 030	293	737	Dairy products, cattle, eggs, apples	1, 014
North Carolina	1, 196	708	488	Tobacco, broilers, eggs, dairy products	1, 341
North Dakota	728	430	298	Wheat, cattle, barley, dairy products	848
Ohio	1, 238	521	717	Dairy products, cattle, hogs, soybeans	1, 305
Oklahoma	843	267	576	Cattle, wheat, dairy products, peanuts	919
Oregon	507	270	237	Cattle, dairy products, wheat, pears	546
Pennsylvania	910	237	673	Dairy products, cattle, eggs, corn	909
Rhode Island	20	9	11	Dairy products, eggs, potatoes, cattle	20
South Carolina	376	231	145	Tobacco, soybeans, eggs, cattle	482
South Dakota	960	210	750	Cattle, hogs, dairy products, corn	990
Tennessee	619	246	373	Cattle, dairy products, tobacco, soybeans	675
Texas	2, 707	1, 244	1, 463	Cattle, sorghum grain, cotton lint, dairy products	2, 984
Utah	190	43	147	Cattle, dairy products, turkeys, sheep	200
Vermont	143	13	130	Dairy products, cattle, eggs, apples	139
Virginia	510	226	284	Dairy products, cattle, tobacco, eggs	530
Washington	795	525	270	Wheat, cattle, apples, dairy products	834
West Virginia	100	25	75	Dairy products, cattle, apples, eggs	98
Wisconsin	1, 469	212	1, 257	Dairy products, cattle, hogs, corn	1, 461
Wyoming	213	37	176	Cattle, sheep, sugarbeets, wheat	212
United States	44, 065	18, 424	25, 641	Cattle, dairy products, hogs, corn, soybeans	45, 867

[1] Preliminary.

[2] Includes Government payments.

Summaries of State agriculture

State	1968								1967	
	Number of farms	Percentage commercial farms	Average per farm				Land in farms	Percentage of land area in farms	Farm personal income as a percentage of total	Agriculture's rank among nine broad industrial sources of personal income
			Size	Value of land and buildings	Gross income	Realized net income				
		Percent	*Acres*	*Dollars*	*Dollars*	*Dollars*	*Thousand acres*	*Percent*	*Percent*	
Alabama	93,000	56.1	163	27,900	8,624	2,795	15,200	46.7	3.4	8
Alaska	310	55.8	6,129	N.A.	15,268	248	1,900	.5	.1	9
Arizona	6,100	70.6	7,131	407,800	101,777	27,147	43,500	55.8	4.0	8
Arkansas	77,000	58.0	232	56,500	14,243	4,614	17,900	49.6	9.1	4
California	64,000	70.9	581	325,500	70,627	18,055	37,200	36.9	2.0	8
Colorado	31,000	77.7	1,274	112,000	34,018	5,862	39,500	57.6	3.3	8
Connecticut	5,300	68.4	125	89,800	32,952	8,909	660	23.1	.5	8
Delaware	3,900	78.4	185	77,700	34,458	7,866	720	56.5	2.2	8
Florida	35,000	57.5	463	142,800	36,744	14,421	16,200	44.5	2.7	8
Georgia	80,000	63.2	224	42,900	14,958	4,917	17,900	48.0	4.0	7
Hawaii	4,700	58.0	500	N.A.	47,739	18,954	2,350	56.2	3.9	8
Idaho	29,400	75.6	524	88,800	20,472	5,301	15,400	28.9	12.0	3
Illinois	131,000	83.7	227	114,300	21,969	6,040	29,800	83.8	2.2	8
Indiana	100,000	69.6	176	77,100	16,266	4,947	17,600	77.4	3.3	8
Iowa	147,000	89.2	235	89,000	26,340	7,614	34,500	94.1	11.7	3
Kansas	91,000	79.9	551	91,700	20,251	5,716	50,100	95.7	7.2	5
Kentucky	133,000	64.7	128	27,500	6,951	2,644	17,000	63.8	5.6	6
Louisiana	56,000	52.5	214	68,100	13,400	5,467	12,000	36.0	3.5	8
Maine	11,000	61.4	227	27,700	20,272	4,197	2,500	13.1	2.7	8
Maryland	19,500	69.7	169	96,200	20,177	5,355	3,300	49.9	.9	8
Massachusetts	7,000	70.4	114	57,100	24,614	5,825	800	18.0	.3	8
Michigan	89,000	64.4	151	46,100	11,761	3,303	13,400	37.4	1.1	8

Minnesota	133,000	83.6	243	53,000	15,782	4,092	32,300	60.7	5.3	7
Mississippi	99,000	56.6	179	37,400	10,144	3,808	17,700	58.6	10.3	4
Missouri	148,000	64.5	226	48,100	11,208	3,409	33,500	74.0	4.1	7
Montana	27,100	83.6	2,476	132,500	21,380	5,705	67,100	70.6	11.9	3
Nebraska	76,000	89.0	634	91,500	25,514	6,297	48,200	97.6	12.7	2
Nevada	2,100	74.6	4,190	225,800	31,084	3,658	8,800	14.9	1.1	9
New Hampshire	3,900	57.1	200	33,900	16,453	2,201	780	15.6	.7	8
New Jersey	9,100	78.2	115	96,300	31,735	8,154	1,050	24.0	.4	8
New Mexico	14,000	64.6	3,471	146,800	27,928	9,032	48,600	61.3	5.2	5
New York	61,000	72.7	197	45,100	19,188	5,765	12,000	40.1	.6	8
North Carolina	165,000	69.9	98	32,100	8,466	3,037	16,100	46.0	5.5	5
North Dakota	45,000	93.1	933	80,800	20,009	5,867	42,000	96.3	16.4	1
Ohio	115,000	65.1	153	62,600	12,833	3,575	17,600	67.1	1.2	8
Oklahoma	92,000	60.4	404	66,300	10,917	2,907	37,200	81.7	4.7	7
Oregon	41,500	54.1	504	73,100	13,876	2,932	20,900	33.3	3.2	8
Pennsylvania	77,000	63.7	138	39,400	13,892	3,613	10,800	37.5	1.0	8
Rhode Island	1,000	68.0	97	63,400	22,551	2,210	97	15.5	.2	8
South Carolina	55,000	60.2	156	36,500	8,686	2,638	8,600	41.8	4.0	6
South Dakota	48,500	91.1	938	76,900	22,310	7,415	45,500	93.7	20.4	1
Tennessee	132,000	57.2	118	26,900	6,032	1,968	15,600	57.7	3.0	8
Texas	195,000	58.7	744	99,100	17,020	5,216	145,000	84.2	3.7	8
Utah	15,000	60.6	887	71,700	14,361	2,819	13,300	24.4	2.4	9
Vermont	8,100	77.5	298	45,300	19,346	5,405	2,410	42.5	4.0	7
Virginia	75,000	57.5	157	38,900	8,422	2,124	11,800	47.1	1.9	8
Washington	46,000	57.9	393	87,400	19,843	7,009	18,100	44.7	3.4	8
West Virginia	31,000	37.6	171	16,900	4,233	608	5,300	34.2	.8	9
Wisconsin	116,000	80.7	179	34,500	14,126	4,789	20,800	58.5	4.3	7
Wyoming	8,800	82.8	4,205	143,300	27,164	5,394	37,000	59.5	8.2	4
United States	3,054,310	68.6	369	69,100	16,617	4,863	1,127,567	49.0	2.7	8

N.A.=Not Available.

Leading agricultural producing States, 1968

Commodity	1	2	3	4	5
Corn, grain	Iowa	Illinois	Indiana	Minnesota	Nebraska.
Wheat	Kansas	North Dakota	Montana	Oklahoma	Washington.
Oats	Minnesota	Iowa	Wisconsin	South Dakota	North Dakota.
Sorghum grain	Texas	Kansas	Nebraska	Oklahoma	California.
Hay	Wisconsin	California	Iowa	Minnesota	Nebraska.
Rice [1]	Texas	Louisiana	California	Arkansas	Mississippi.
Tobacco	North Carolina	Kentucky	South Carolina	Tennessee	Virginia.
Cotton	Texas	California	Mississippi	Arkansas	Arizona.
Soybeans	Illinois	Iowa	Missouri	Indiana	Arkansas.
Peanuts	Georgia	Texas	North Carolina	Alabama	Virginia.
Sugarcane [1]	Hawaii	Louisiana	Florida		
Sugarbeets	California	Idaho	Colorado	Minnesota	Michigan.
Apples	Washington	New York	California	Michigan	Virginia.
Oranges [1]	Florida	California	Arizona	Texas	
Potatoes	Idaho	Maine	California	Washington	New York.
Cattle and calves [2]	Texas	Iowa	Nebraska	Kansas	California.
Hogs [2]	Iowa	Illinois	Indiana	Missouri	Minnesota.
Sheep and lambs [2]	Texas	California	Colorado	Wyoming	South Dakota.
Milk	Wisconsin	Minnesota	New York	California	Pennsylvania.
Eggs	California	Georgia	Arkansas	Pennsylvania	Iowa.
Broilers	Georgia	Arkansas	Alabama	North Carolina	Mississippi.
Turkeys	Minnesota	California	Missouri	North Carolina	Texas.

Commodity	6	7	8	9	10
Corn, grain	Missouri	Ohio	Wisconsin	South Dakota	Michigan.
Wheat	Nebraska	Texas	South Dakota	Idaho	Illinois.
Oats	Illinois	Ohio	Michigan	Pennsylvania	New York.
Sorghum grain	Arizona	New Mexico	Missouri	Colorado	South Dakota.
Hay	Missouri	New York	South Dakota	Kansas	Texas.
Rice [1]	Missouri				
Tobacco	Georgia	Pennsylvania	Maryland	Florida	Ohio.
Cotton	Louisiana	Alabama	Tennessee	Georgia	South Carolina.
Soybeans	Minnesota	Ohio	Mississippi	Louisiana	Tennessee.
Peanuts	Oklahoma	Florida	South Carolina	New Mexico	Mississippi.
Sugarcane [1]					
Sugarbeets	Washington	Nebraska	North Dakota	Montana	Wyoming.
Apples	Pennsylvania	West Virginia	North Carolina	Ohio	New Jersey.
Oranges [1]					
Potatoes	North Dakota	Minnesota	Oregon	Wisconsin	Colorado.
Cattle and calves [2]	South Dakota	Missouri	Oklahoma	Minnesota	Colorado.
Hogs [2]	Nebraska	Ohio	South Dakota	Wisconsin	North Carolina.
Sheep and lambs [2]	Idaho	Utah	Iowa	Montana	Minnesota.
Milk	Iowa	Michigan	Ohio	Illinois	Missouri.
Eggs	North Carolina	Indiana	Texas	Alabama	Mississippi.
Broilers	Maryland	Texas	Delaware	Maine	California.
Turkeys	Arkansas	Iowa	Virginia	Wisconsin	Ohio.

[1] Production of leading States only.

[2] Liveweight production on farms.

STATE	MAJOR FARM EXPORTS
Alabama	Cotton; soybeans; poultry products; feed grains;[1] and tobacco.
Alaska	No major farm exports.
Arizona	Cotton; feed grains;[1] vegetables and preparations; fruits and preparations; and other.
Arkansas	Rice; soybeans; cotton; other; and wheat.
California	Fruits and preparations; rice; cotton; vegetables and preparations; and other.
Colorado	Wheat: feed grains;[1] other; lard and tallow; and hides and skins.
Connecticut	Tobacco; fruits and preparations; other; vegetables and preparations; and poultry products.
Delaware	Feed grains;[1] soybeans; poultry products; other; and wheat.
Florida	Fruits and preparations; vegetables and preparations; tobacco; other; and feed grains.[1]
Georgia	Tobacco; cotton; feed grains;[1] nuts and preparations; and other.
Hawaii	Fruits and preparations; other; vegetables and preparations; hides and skins; meats and products (excluding poultry); and lard and tallow.
Idaho	Wheat; vegetables and preparations; other; feed grains;[1] and fruits and preparations and dairy products.
Illinois	Feed grains;[1] soybeans; wheat; protein meal; and other.
Indiana	Feed grains;[1] soybeans; wheat; protein meal; and other.
Iowa	Feed grains;[1] soybeans; protein meal; other; and lard and tallow.
Kansas	Wheat; feed grains;[1] other; soybeans; and wheat flour.
Kentucky	Tobacco; feed grains;[1] soybeans; other; and wheat.
Louisiana	Rice; cotton; soybeans; other; and wheat.
Maine	Vegetables and preparations; poultry products; fruits and preparations; and other.
Maryland	Tobacco; feed grains;[1] soybeans; wheat; and poultry products.
Massachusetts	Tobacco; fruits and preparations; vegetables and preparations; and other.
Michigan	Wheat; feed grains;[1] fruits and preparations; vegetables and preparations; and other.

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[1] Includes corn, grain sorghums, barley, and oats.

"Other" refers to exports that were not apportioned among States.

STATE	MAJOR FARM EXPORTS
Minnesota	Soybeans; feed grains;[1] wheat; other; and dairy products.
Mississippi	Cotton; soybeans; other; wheat; and protein meal.
Missouri	Soybeans; wheat; feed grains;[1] other; and wheat flour.
Montana	Wheat; other; feed grains;[1] wheat flour; and lard and tallow.
Nebraska	Feed grains;[1] wheat; other; soybeans; and lard and tallow.
Nevada	Wheat; other; feed grains;[1] meats and products; hides and skins; and hard and tallow.
New Hampshire	Fruits and preparations; vegetables and preparations; and other.
New Jersey	Vegetables and preparations; fruits and preparations; wheat; hides and skins; and other.
New Mexico	Cotton; feed grains;[1] wheat; other; and vegetables and preparations.
New York	Fruits and preparations; wheat flour; wheat, dairy products; and vegetables and preparations.
North Carolina	Tobacco; other; soybeans; feed grains;[1] and wheat.
North Dakota	Wheat; other; feed grains;[1] flaxseed; and soybeans.
Ohio	Wheat; feed grains;[1] soybeans; other; and protein meal.
Oklahoma	Wheat; cotton; other, feed grains;[1] and nuts and preparations.
Oregon	Wheat; fruits and preparations; vegetables and preparations; other; and wheat flour.
Pennsylvania	Wheat; tobacco; feed grains;[1] other; and fruits and preparations.
Rhode Island	Vegetables and preparations.
South Carolina	Tobacco; soybeans; cotton; other; and feed grains.[1]
South Dakota	Wheat; feed grains;[1] other; flaxseed; and soybeans.
Tennessee	Soybeans; protein meal; cotton; soybean oil; and other.
Texas	Cotton; feed grains;[1] rice; other; and wheat.
Utah	Wheat; wheat flour; other; lard and tallow; and hides and skins.
Vermont	Dairy products; fruits and preparations; and other.
Virginia	Tobacco; other; wheat; soybeans; and feed grains.[1]

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[1] Includes corn, grain sorghums, barley, and oats.

STATE	MAJOR FARM EXPORTS
Washington	Wheat; fruits and preparations; other; vegetables and preparations; and wheat flour.
West Virginia	Fruits and preparations; wheat; poultry products; other; and lard and tallow.
Wisconsin	Dairy products; feed grains;[1] vegetables and preparations; lard and tallow; and other.
Wyoming	Wheat; other; vegetables and preparations; feed grains;[1] meats and products; hides and skins; lard and tallow.
United States	Wheat; feed grains;[1] soybeans; other; and tobacco.

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[1] Includes corn, grain sorghums, barley, and oats.

"Other" refers to exports that were not apportioned among States.

Number of farms and land in farms, by States, 1967–69

State	Number of farms			Land in farms (thousand acres)		
	1967	1968	1969 [1]	1967	1968	1969 [1]
Maine	11, 800	11, 000	10, 300	2, 600	2, 500	2, 400
New Hampshire	4, 200	3, 900	3, 600	830	780	740
Vermont	8, 600	8, 100	7, 500	2, 490	2, 410	2, 300
Massachusetts	7, 500	7, 000	6, 500	840	800	750
Rhode Island	1, 100	1, 000	900	102	97	92
Connecticut	5, 700	5, 300	4, 900	700	660	620
New York	64, 000	61, 000	58, 000	12, 400	12, 000	11, 600
New Jersey	9, 500	9, 100	8, 700	1, 080	1, 050	1, 010
Pennsylvania	80, 000	77, 000	75, 000	11, 000	10, 800	10, 650
Ohio	118, 000	115, 000	113, 000	17, 800	17, 600	17, 400
Indiana	105, 000	100, 000	96, 000	17, 900	17, 600	17, 300
Illinois	133, 000	131, 000	129, 000	30, 000	29, 800	29, 700
Michigan	92, 000	89, 000	87, 000	13, 700	13, 400	13, 200
Wisconsin	118, 000	116, 000	114, 000	21, 000	20, 800	20, 600
Minnesota	135, 000	133, 000	130, 000	32, 400	32, 300	32, 200
Iowa	150, 000	147, 000	143, 000	34, 500	34, 500	34, 500
Missouri	152, 000	148, 000	145, 000	33, 700	33, 500	33, 300
North Dakota	47, 000	45, 000	43, 000	42, 000	42, 000	42, 000
South Dakota	50, 000	48, 500	47, 500	45, 600	45, 500	45, 500
Nebraska	78, 000	76, 000	74, 000	48, 200	48, 200	48, 200
Kansas	93, 000	91, 000	88, 000	50, 100	50, 100	50, 000

See footnotes at end of table.

Number of farms and land in farms, by States, 1967–69—Continued

State	Number of farms			Land in farms (thousand acres)		
	1967	1968	1969 [1]	1967	1968	1969 [1]
Delaware	4, 100	3, 900	3, 700	730	720	710
Maryland	20, 400	19, 500	18, 700	3, 350	3, 300	3, 250
Virginia	78, 000	75, 000	73, 000	12, 000	11, 800	11, 600
West Virginia	33, 000	31, 000	30, 000	5, 500	5, 300	5, 200
North Carolina	168, 000	165, 000	163, 000	16, 200	16, 100	16, 100
South Carolina	58, 000	55, 000	52, 000	8, 800	8, 600	8, 400
Georgia	82, 000	80, 000	78, 000	18, 400	17, 900	17, 600
Florida	37, 000	35, 000	34, 000	16, 200	16, 200	16, 200
Kentucky	138, 000	133, 000	130, 000	17, 100	17, 000	16, 900
Tennessee	135, 000	132, 000	128, 000	15, 700	15, 600	15, 500
Alabama	96, 000	93, 000	90, 000	15, 400	15, 200	15, 000
Mississippi	101, 000	99, 000	97, 000	17, 800	17, 700	17, 600
Arkansas	80, 000	77, 000	75, 000	17, 900	17, 900	17, 900
Louisiana	59, 000	56, 000	54, 000	11, 800	12, 000	12, 100
Oklahoma	93, 000	92, 000	92, 000	37, 300	37, 200	37, 200
Texas	200, 000	195, 000	191, 000	145, 000	145, 000	145, 000

Montana	27, 600	27, 100	26, 700	67, 100	67, 100	67, 100
Idaho	30, 000	29, 400	28, 900	15, 400	15, 400	15, 400
Wyoming	9, 000	8, 800	8, 600	37, 000	37, 000	37, 000
Colorado	31, 500	31, 000	30, 500	39, 500	39, 500	39, 500
New Mexico	14, 300	14, 000	13, 800	48, 600	48, 600	48, 300
Arizona	6, 300	6, 100	6, 000	43, 500	43, 500	43, 400
Utah	15, 500	15, 000	14, 500	13, 300	13, 300	13, 300
Nevada	2, 200	2, 100	2, 100	8, 800	8, 800	8, 800
Washington	47, 000	46, 000	46, 000	18, 100	18, 100	18, 100
Oregon	42, 000	41, 500	41, 000	20, 900	20, 900	20, 900
California	70, 000	64, 000	59, 000	37, 400	37, 200,	37, 000
48 States	3, 141, 300	3, 049, 300	2, 971, 400	1, 127, 722	1, 123, 317	1, 119, 122
Alaska [2]	320	310	310	1, 900	1, 900	1, 900
Hawaii	4, 800	4, 700	4, 600	2, 360	2, 350	2, 350
United States	3, 146, 420	3, 054, 310	2, 976, 310	1, 131, 982	1, 127, 567	1, 123, 372

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[1] Preliminary.

[2] Exclusive of grazing land leased from U.S. Government, Alaska farmland totals about 70,000 acres.

TREND TO FEWER AND LARGER FARMS CONTINUES

The Nation had an estimated 3,054,000 operating farms in 1968, and will probably have fewer in 1969. The preliminary estimate for this year indicates 2,976,000 farms will be in operation. This reduction would be slightly smaller than the average of recent years.

Total land in farms continued to decrease, to approximately 1,128 million acres, but the decrease was much slower than the decline in farm numbers. For 1969, the preliminary estimate of land in farms is 1,123 million acres.

Since 1959, farm numbers have declined slightly more than a fourth while land in farms has decreased only 5 percent. These changes are associated with an increase in the average size of farms from 288 acres in 1959 to 377 acres in 1969. Discontinuance of small farming enterprises and the merging of larger units continue as the important influences in the change in the farm numbers.

Number of farms and land in farms, United States, 1959–69

Year	Farms	Land in farms	Average size of farms
	Thousands	*Thousand acres*	*Acres*
1959	4, 105	1, 182, 563	288
1960	3, 962	1, 176, 946	297
1961	3, 821	1, 169, 899	306
1962	3, 685	1, 161, 383	315
1963	3, 561	1, 153, 072	324
1964	3, 442	1, 146, 806	333
1965	3, 340	1, 141, 536	342
1966	3, 239	1, 137, 161	351
1967	3, 146	1, 131, 982	360
1968	3, 054	1, 127, 567	369
1969 [1]	2, 970	1, 123, 372	377
Percent of 1959	73	95	131

[1] Preliminary

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The sources for all of the material in this booklet are specialized and periodical publications of the U.S. Department of Agriculture. Nearly all of this material is under continuous revision, with new reports appearing weekly, monthly, and quarterly. Unless statements in this publication are otherwise dated, they represent the latest available information in June 1969.

A List of Available Publications of the United States Department of Agriculture, List No. 11, is for sale (45 cents per copy) by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

A list, Periodic Reports of Agricultural Economics, is published yearly by the Division of Information, Office of Management Services, U.S. Department of Agriculture, Washington, D.C. 20250. Many nonperiodic reports and speeches are listed in Checklist of Reports, issued monthly, which may be obtained at the same address.

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